

Chilton's  
**MOTOR  
AGE**

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OCT 21 1952  
DETROIT

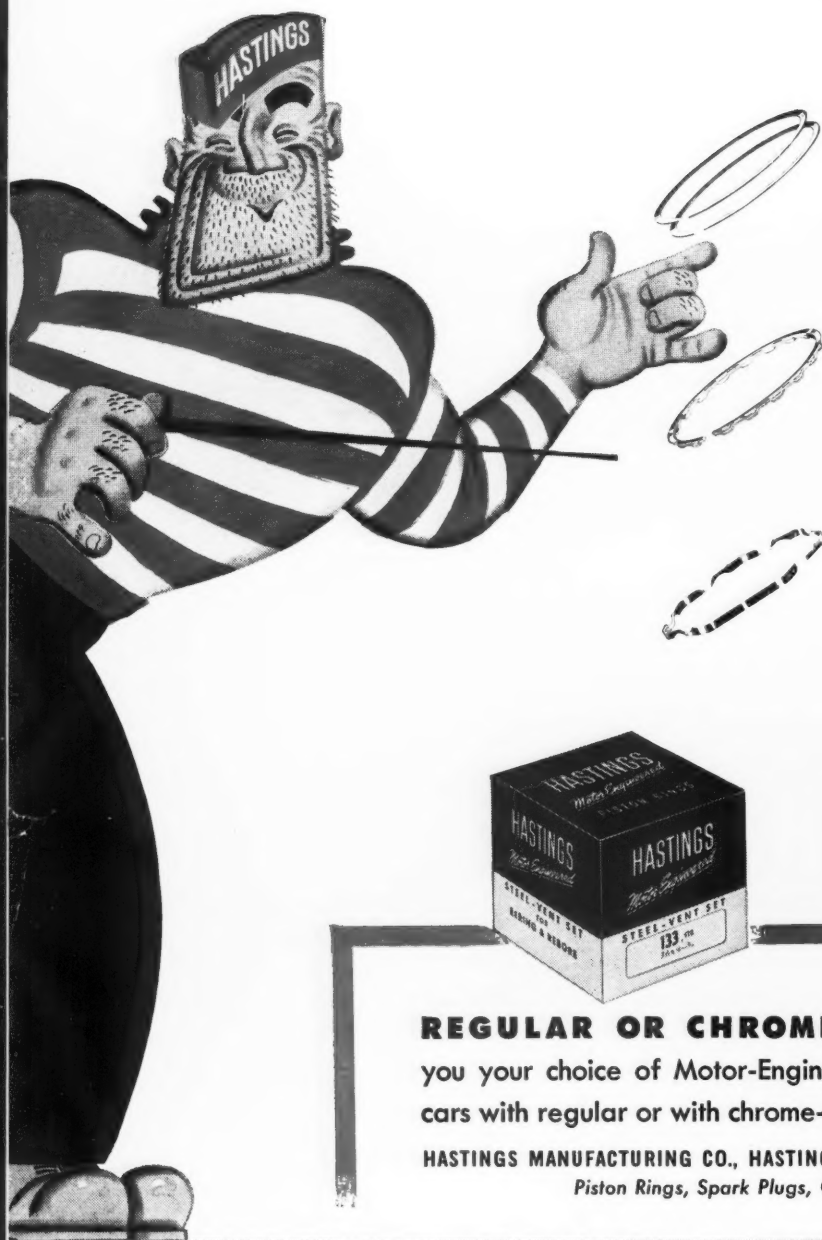
OCTOBER 1952



In This Issue:

**Fuel Gage Operation**

# TOUGH BUT OH SO GENTLE!



## TOUGH ON OIL-PUMPING ... GENTLE ON CYLINDER WALLS

*Gentle* because Steel-Vent's two wall-contacting steel sections have rounded edges which provide hairline contact and reduce drag to a minimum.

*Gentle* because the Steel-Vent spacer has extra wide vents that let oil flow through freely for extra cylinder wall lubrication.

*Gentle* because Steel-Vent's flexible, low-tension inner spring works only against the steel sections —holds them on cylinder wall with soft pressure.

**Result:** maximum life, minimum wear



**REGULAR OR CHROME-FACED** — Hastings gives you your choice of Motor-Engineered Sets for all passenger cars with regular or with chrome-faced Steel-Vent Piston Rings.

HASTINGS MANUFACTURING CO., HASTINGS, MICH. • HASTINGS LTD., TORONTO  
Piston Rings, Spark Plugs, Oil Filters, Casite, Drouit

# HASTINGS

## STEEL-VENT PISTON RINGS

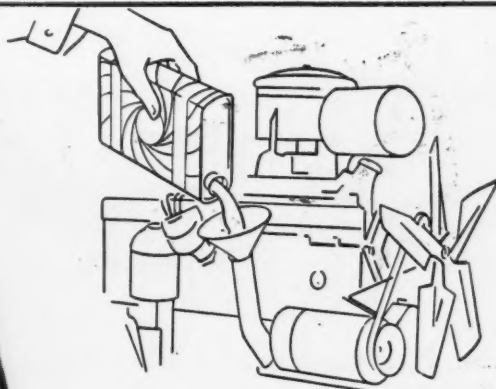
*Regular or Chrome-Faced*

## FOR ALL PASSENGER CARS





Every time you make an **OIL CHANGE**  
 Sell a quart of **PERMATEX TOON-OYL®**



It is surprising how often a quart of Toon-Oyl added to the crankcase oil will make a sluggish engine purr like a kitten. It's only good business to suggest it whenever you make an oil change and whenever a driver complains about performance of his engine. There's extra profit in it for you and you please your customer.

**1. Cleans gummed working parts**

Permatex Toon-Oyl dissolves carbon-gum deposits, frees sticky valves and rings, leaving working parts clean.

**2. Eliminates excessive wear**

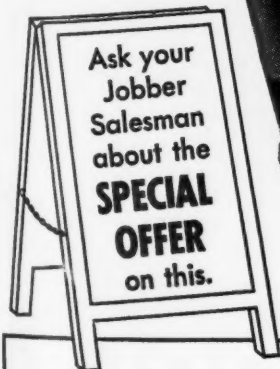
Permatex Toon-Oyl is specially formulated to retard acid action and corrosion which is the cause of 90% of engine "wear".

**3. Increases power**

Permatex Toon-Oyl increases power two ways...by freeing working parts from carbon-gum and through improved lubrication by coating metal parts with a friction resisting film.

**PERMATEX COMPANY, INC.**  
 Brooklyn 35, N. Y.

*Over 50 Chemical Products for  
 better automotive maintenance*



**PERMATEX TOON-OYL®**



**Tool Experts Know,  
and Even Ghouls...that**

**PROTO means  
PROfessional  
TOols!**

Superior design is one of the big reasons why PROTO tools are preferred by professionals. As new tool requirements develop, you can look to PROTO for the thoroughly user-tested designs to meet these needs. Each tool is light but strong, balanced, easy handling and snug fitting. Long life and extra safety are due to properly engineered designs, accurate manufacture, special alloy steels and scientific heat treating. Your tool dollar is protected by PROTO's positive guarantee, and the extensive line assures you of getting the exact tools you need. Buy PROTO, the truly professional tools, from your dealer today. Send 10¢ for 68-page catalog to

**PLUMB TOOL COMPANY**  
2226Q Santa Fe Ave.,  
Los Angeles 54, Calif.

Eastern Factory—  
Jamestown, N. Y.



The PROTO Line includes Wrenches of All Types, Pliers, Screwdrivers, Punches, Chisels, Sockets & Handles, Pullers, Tool Boxes, Industrial Tools and Many Others.

5282

**PROTO TOOLS**

REG. U. S. PAT. OFF.  
MADE IN U. S. A.

**LOS ANGELES**

**PROTO means  
PROfessional  
TOols**

# Chilton's MOTOR AGE

WITH WHICH IS COMBINED AUTOMOBILE TRADE JOURNAL

Reg. U. S. Pat. Off.

For THE AUTOMOTIVE SERVICE INDUSTRY

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LXXI, No. 11

October, 1952

## In This Issue . . .

News scene .....	33
Price, Weight & Body Table .....	36
New Car Registrations .....	37
Management Clinic .....	38
That's What the Man Said .....	39
Important Factors on Wheel Alignment .....	40
Pop Stops a Runaway .....	42
How Auto-Lite Fuel Gages Operate .....	44
Merchandising and Promotion .....	46
Modernization for Any Shop .....	48
How to Check Bent Spindles .....	50
New Products Show Window .....	51
Hot Tips on Hot Rods .....	55
An Early Page in Motor Age .....	56
Body Shop Tips .....	57
Building the Jabro Sportscar .....	58
Shop Kinks .....	60
Reader's Clearing House .....	85
Calendar of Coming Events .....	156
Advertisers' Index .....	176

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## "This is what convinces 'em"

*"What do most automotive dealers want most? Better business, of course. And what do they expect advertising to do for them? They expect it to give them sales support where they can profit most from it—right around their own place of business."*

*"When I tell dealers that Farm Journal is included in our promotion plans, they know they're getting what they want, because I can show them the proof with these county folders."*

These County Analysis Folders

show, county by county the country over, the number of farms, the number of farm-owned automotive units, the standard of living and economic status of farm families. They also show the tremendous circulation which Farm Journal has among these families.

Hundreds and hundreds of requests have been received for these folders—from dealers, jobbers and manufacturers who realize that rural customers are among the very best customers of the automotive industry. They welcome this information

about the tremendous local support Farm Journal gives them.

Farm Journal gives you this tremendous local support because it is the kind of magazine it is—a specialist in Rural America, with a larger circulation there than any other national magazine. And Farm Journal is so big in its specialized field that it has coverage in the better rural areas like a local newspaper.

What does Farm Journal do for you? Send for the County Analysis Folder for your territory and see. Just write Dealer Service Department.



ANOTHER GOOD OPPORTUNITY TO BUILD GREATER BUSINESS LOCALLY. Farm Journal's unique "Keep 'Em Rolling" editorial program constantly promotes better maintenance of automotive equipment. These features are welcomed by dealers as well as farmers for the preventive maintenance suggestions they contain, and for the emphasis they place on getting service work done at the right time, when both profit most.

## Farm Journal

WASHINGTON SQUARE, PHILA. 5, PA.  
GRAHAM PATTERSON, PUBLISHER

Chilton's MOTOR AGE, OCTOBER, 1952

## 5



*For the*  
**BEST in BEARING SERVICE...**  
*Ask your Federal-Mogul Jobber!*

## **FEDERAL-MOGUL SERVICE**

(Division of Federal-Mogul Corporation)

**DETROIT 13, MICHIGAN**



Engine Bearings (Main, Connecting Rod and Camshaft) • Bushings • Connecting Rod Service • Exchange Insert Rods, Rebabbitted Rods • Connecting Rod Bolts and Nuts • V-Seam Piston Pin Bushings • Shims and Shim Stock.





Like  
taking out  
your best  
blonde



Posed for  
**PUROLATOR**  
by Bert Lahr,  
famous comedian,  
star of stage, screen,  
radio and television.

*...and getting paid for it!*

**What does Bert mean?** Simply this! Dealers everywhere find selling Purolators just their dish! Two profits on every sale . . . one on the refill . . . and one on the extra oil that goes with every refill!

*In the first place*—according to a recent survey—9 out of 10 motorists buy when the dealer shows them a dirt-clogged filter, explains how dirt wrecks engines.

*More important*—most of these motorists buy

a Purolator\* Micronic when they're shown the job a Purolator element can do!

*Actually*, every car on the road needs an oil filter. And every car with a filter needs, and can be sold, 2—or more—Purolator Micronic\* refills a year.

*So—stock Purolator to sell every car that calls!*

Remember—first, last, and always . . . Purolators are No. 1—with everyone! No. 1 in the way they're built! No. 1 in the way they're advertised and sold!

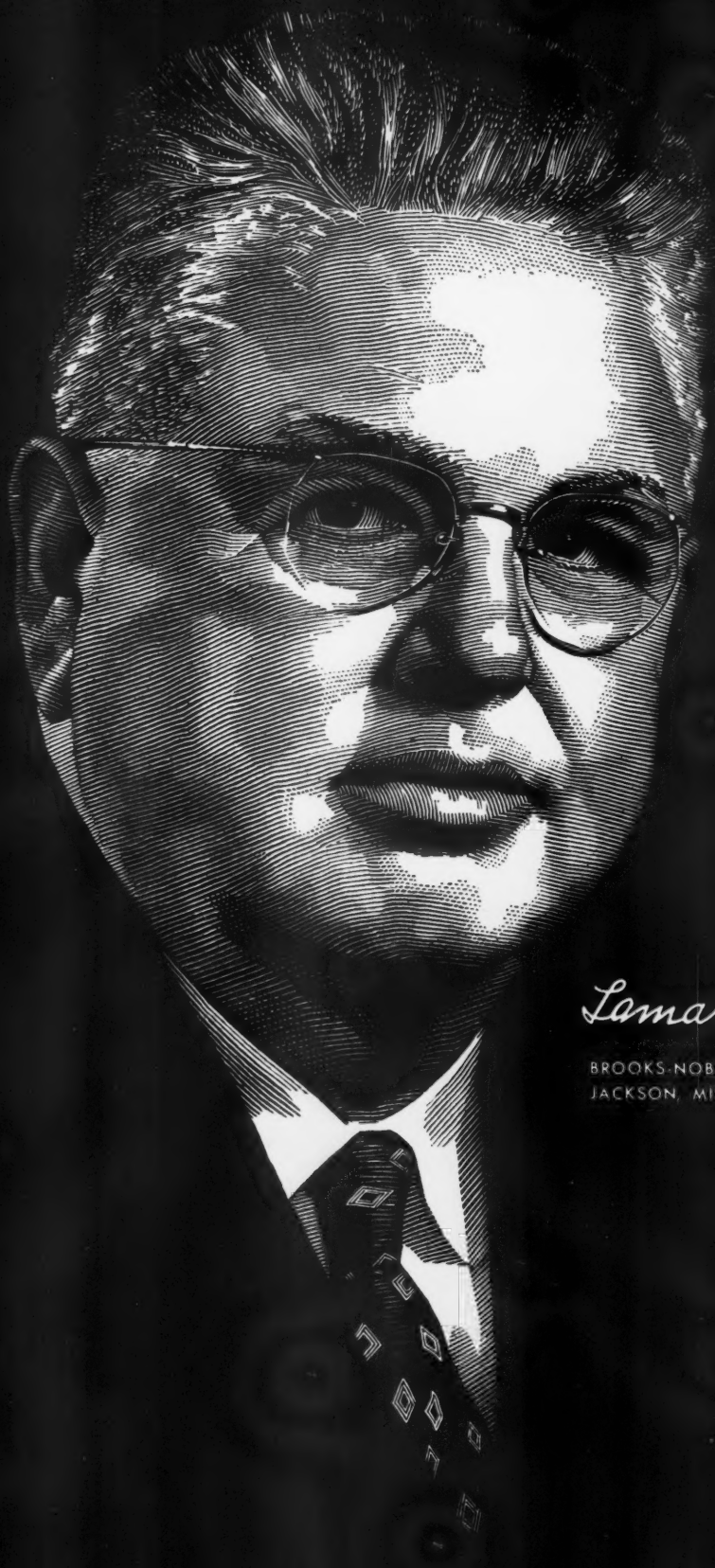
**PUROLATOR PRODUCTS, INC.**  
Rahway, New Jersey, and Toronto, Ontario, Canada

**PurOlator**  
(ENGINEERED FOR EVERY MAKE OF CAR)

*Micronic*  
**OIL FILTER**



\*Reg. U. S. Pat. Off.



*Lamar F. Noble*

SALESMANAGER & TREASURER

BROOKS-NOBLE AUTO PARTS & MACHINE CO.  
JACKSON, MISSISSIPPI

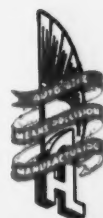
*Gilchrist*

"LAST SEASON was one of the best we've had in the battery business, and it's mainly because of the extra big pluses we got when we signed up to handle the Auto-Lite Battery line," says Lamar F. Noble.

"We expect an even bigger volume of business and profits this coming year with the Auto-Lite Battery line because only Auto-Lite has so much to offer:

original equipment, national radio and television shows, a strong national magazine and farm magazine advertising campaign and now—'Operator 25' Service.

"Add to this great line-up the fast-growing preference for the premium-profit 'Sta-ful' in our territory, and you'll understand why we're such Auto-Lite boosters."



# AUTO-LITE BATTERIES





# You can't build a good reputation with inferior brake lining...

The only way you can be sure of holding customers is to use quality lining. So reline with Raybestos PG Proving Ground Tested Sets...brake linings built to last longer on today's vehicles and make safer stops in today's traffic. They will complement your shop's good mechanical work and increase your profits.



**INSIST ON THE RAYBESTOS BRAND ON EVERY PIECE OF BRAKE LINING. IT'S THERE FOR YOUR PROTECTION.**

PG for riveting

Ray-BOND for bonding



## PULL WHEELS AND USE THE RAYBESTOS BRAKE CERTIFICATE

These two things, plus the quality of Raybestos Brake Lining, will give you the keys to brake service volume. And month after month, powerful pre-selling Raybestos ads like the one below will support you by urging city and rural car owners to have their brakes certified safe.



## YOUR CUSTOMERS AND PROSPECTS WILL READ THIS RAYBESTOS AD

Hard-hitting advertisements like this are appearing regularly in **The Saturday Evening POST** and in **Farm Journal** • Thousands of car owners right in your own neighborhood will become brake lining conscious . . . will want to buy Raybestos.

50 YEARS OF SERVICE . . . 50 YEARS OF PROGRESS . . . 1902-1952



# Raybestos® PG SETS

AMERICA'S BIGGEST SELLING BRAKE LINING



**RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., Bridgeport, Conn.**

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Radiator Hose • Fan Belts • Industrial Rubber Products • Rubber Covered Equipment • Packings • Asbestos Textiles • Sintered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

for **BOTH**  
voltages...

12



MASTER  
MOTOR  
TESTER



SUN  
makes it easier  
for you



VOLTS  
AMPERE  
TESTER

**to service the cars of today...and tomorrow**  
...with test equipment in advance of the times



BATTERY  
STARTER  
TESTER



POWER  
TIMING  
LIGHT



BATTERY  
CHARGER  
UNIT

DON'T GUESS - TEST !



**Sun**



Here is an exceptional opportunity offered by SUN to every service shop . . . an opportunity to prepare and modernize—in advance—for new and revolutionary developments in the automotive industry.

Available NOW . . . is the newly engineered SUN Master Motor Tester and Accessory Group for completely and accurately testing both 6 and 12 volt automotive engines. Each of these new units has been designed to make every test on 6 and 12 volt systems in compliance with the car manufacturer's approved methods. It is now possible, with this new SUN Equipment, to modernize your testing department today—in the sure knowledge that these new units will not only service the cars and trucks of the present—but those of tomorrow as well.

To help you modernize . . . SUN has developed a Modernization Plan that tells you how easily you can convert your shop and equipment—with new 6-12 volt units . . . how your old 6 volt testers can be used as a valuable trade-in. Prepare for tomorrow—today! Talk to your nearest SUN Representative—or write directly to us for complete information on the Modernization Plan.

SUN Equipment is also available for fleet and military use—in 6-12-24 volt units.

**ELECTRIC CORPORATION**

6353 AVONDALE AVENUE  
CHICAGO 31, ILLINOIS

SUN Technical Training Schools in 16 cities. Night and Day Courses.

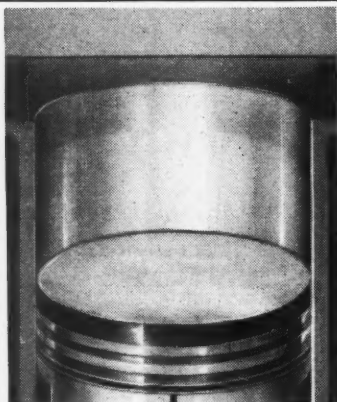
JA6041

# NEW MOTOR OIL! SUPER TOUGH! SUNOCO H.D. DYNALUBE

**Tougher Film Strength for Extra Margin of Safety!**



**High speeds and heat** where piston rings rub cylinder walls cause inferior oil to break down. Piston rings and cylinder walls become scuffed like this. Result: Lost power, wasted gas and oil.



**New H.D. Dynalube** is twice as tough as ordinary detergent oils. It fights wear at all speeds, all temperatures—keeps cylinder walls smooth, and rings tight-fitting.

**Cleans 6 Times Better Than Ordinary Motor Oil!**



**Inferior motor oil** builds up gummy deposits of varnish on the valves, piston rings and hydraulic valve lifters. Engines run hot, wear faster and burn extra gasoline and oil.



**New H. D. Dynalube** cleans away varnish and carbon and keeps them in suspension until your next oil change. (For maximum protection, change oil every 1000 miles.)

**Another good reason —  
customers stay with you when  
you sell Sunoco products!**

**Exceeds all manufacturers'  
recommendations  
for all passenger cars!**

New Heavy-Duty (H.D.) Dynalube is super-tough and super-detergent. Fights wear better . . . longer.

**Gives complete protection  
under severest engine  
heats and pressures!**

New H.D. Dynalube *exceeds* the toughest engine requirements of any car on the road today!

**Keeps engines NEW twice  
as long as ordinary  
detergent motor oils!**

New H. D. Dynalube is actually *more than twice as tough* as ordinary detergent motor oils.

**MEETS MILITARY  
SPECIFICATIONS MIL-02104**





# only **DELCO** ENGINEERED RIDE CONTROL SHOCK ABSORBERS

## QUALITY-BUILT FEATURES INSURE LONG LIFE TOP PERFORMANCE

**MIRROR-FINISHED PISTON ROD**  
assures positive wiping action

**MULTI-LIP SEAL**  
seals in fluid, seals out dirt

**SEALED FOR LIFE**  
all parts permanently sealed

**ROD GUIDE AND BEARING**  
insure positive, quiet action

**CYLINDER**  
precision finished bore insures proper fit

**RESERVOIR TUBE**  
engineered for correct fluid stability

**PISTON**  
precision made for trouble-free operation

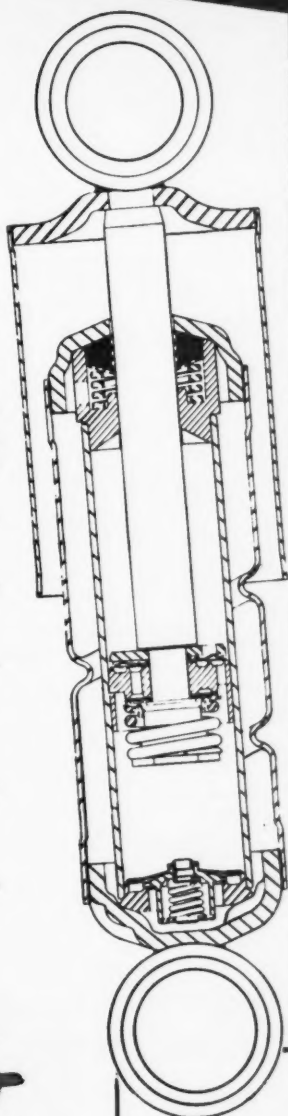
**"DUPLEX" VALVE DESIGN**  
assures uniform ride

**SPECIAL FLUID**  
Delco-developed for all climates, all conditions

**MOUNTING RINGS AND BAYONETS**  
scientifically welded for maximum strength, durability

## **EASIEST TO STOCK**

# **EASIEST TO SELL**



## GIVE YOU THESE

# **TOP-PROFIT** ADVANTAGES

### ENGINEERING DEVELOPMENT

Today, as in the past, Delco is the recognized leader in shock absorber development and engineering. This is proved by the fact that Delco holds many basic patents in shock absorber design and continues to pioneer new improvements in "ride control."

### MANUFACTURING FACILITIES

Delco's complete manufacturing facilities—unmatched in the industry and exclusive with Delco—insure greater accuracy, higher quality and more uniformity. Many precision operations—which Delco alone performs—insure better performance and longer shock absorber life.

### MARKET COVERAGE

More than half the cars on the road today are equipped with Delco shock absorbers—more Delcos are in use than any other make. This tremendous pre-sold market is your key to easier sales—at more profit!

### APPROVED PRODUCT

Leading automotive engineers specify Delco shock absorbers for more new cars than any other make. They know that Delcos fulfill all requirements for smooth, efficient and dependable operation—with assured long life.

### A COMPLETE LINE

Delco makes the right type of shock absorber for every car! No matter what your customer needs, you have it with Delco. That is why more than 80,000,000 Delco shock absorbers are in use today . . . why Delco's complete line is your easiest road to satisfied customers and quick profits!

## **DELCO SHOCK ABSORBERS**

A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

**DELCO PRODUCTS** DIVISION

GENERAL MOTORS CORPORATION

DAYTON, OHIO

# TO THE TOP

R A STRANAHAN President  
F D STRANAHAN Treasurer

CABLE ADDRESS  
"CHAMPION"

## CHAMPION SPARK PLUG COMPANY

FELTHAM ENGLAND PARIS FRANCE WINDSOR CANADA

TOLEDO 1, OHIO, U.S.A.

October 1st, 1952

Dear Champion Dealer:

This month we'd like to tell you how Champion plans to help you step up your profits and keep your cash register ringing.

We're going to shoot with the grand poster you see on the right. It's loaded with attention-getting human interest and will appear in the major magazines listed beside it.

In addition, it will be featured throughout November in compelling sales messages via television in 29 metropolitan markets, with a weekly audience of 12 million.

Make our advertising your advertising. Display the poster — call the customer's attention to your ad in current magazines — and then ask him to let you get his car set for winter.

Next month we're going to tell you all about a new program which we've tested and found to be a real producer of spark plug sales and profits. See you then.

Best regards,

*Jim L*

P.S.: Grit, the small town weekly newspaper, just completed a consumer survey showing the preference for Champions at 65.5% — next highest 12.5%. This preferred position is substantially the same in every survey we've ever seen.



# DEALERS *IN THE NATION*

POST

•

LIFE

•

COLLIER'S

•

TIME

•

NEWS-  
WEEK

•

AMERICAN  
MAGAZINE

•

BETTER  
HOMES AND  
GARDENS

•

AMERICAN  
LEGION

•

PATH-  
FINDER

•

GRIT

**LOOK OUT *for Winter***



AMERICA'S FAVORITE

**CHAMPION**

SPARK PLUGS



# Here are **5** reasons why

**1**

## **SENSATIONAL NEW KIND OF ADVERTISING WILL BRING CUSTOMERS DIRECTLY TO YOUR DOOR!**

***Get Extra Sales and Profits from  
Western Union Operator 25 . . . . It's easy!***

Today, more than ever before, car owners need and want an accurate battery charge and condition test. AAA reports more than 10 million car breakdowns in 1951 were caused by battery failure. And now Willard Dealers can provide a quick, accurate test that car owners can understand. Over 73 million sales messages in Willard national advertising will feature this battery charge and condition test in a big way. And every single message will urge car owners to locate their Willard Dealer by Calling Western Union and asking for Operator 25.

**PUT WESTERN UNION OPERATOR 25 TO WORK FOR YOU!  
*Willard Foots the Bill . . . Costs You Nothing***



• Use this great new Willard service to help you sell more batteries and other under-the-hood products and services. Contact your Willard Distributor right now . . . delay can cost you extra profits. If you don't know your Willard Distributor, fill out coupon on right-hand page and mail it *today*.



# **Willard**

WILLARD STORAGE BATTERY COMPANY  
FACTORIES IN: CLEVELAND - LOS ANGELES - DALLAS - MEMPHIS - PORTLAND - ALBANY - TORONTO

# you can make more money selling **Willard!**

**2**

**It's easier to sell Willard because more car owners prefer Willard than any other battery!**

**3**

**Year after year, Willard has supplied batteries to more manufacturers for original equipment than any other battery maker...and will again in 1952!**

**4**

**In the complete Willard line you have a battery for everyone — retail prices start at \$16.65.**

**5**

**50 years and 100 million batteries have proved Willard the world's most dependable battery.**

*Mail Coupon Below*

for more facts on these and other  
big reasons why you can make more  
money selling Willard.

*Send me*

**FACTS FOR WHOLESALERS**

Willard Storage Battery Co., Dept. B-10  
1220 Huron Road, Cleveland 15, Ohio

Yes, I would like all of the reasons why I can make more money as a wholesaler for Willard Batteries, including profit opportunity figures specifically covering my own particular territory.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

*Send me*

**FACTS FOR DEALERS**

Willard Storage Battery Co., Dept. B-10  
1220 Huron Road, Cleveland 15, Ohio

Yes, I would like all of the reasons why I can make more money selling Willard Batteries.

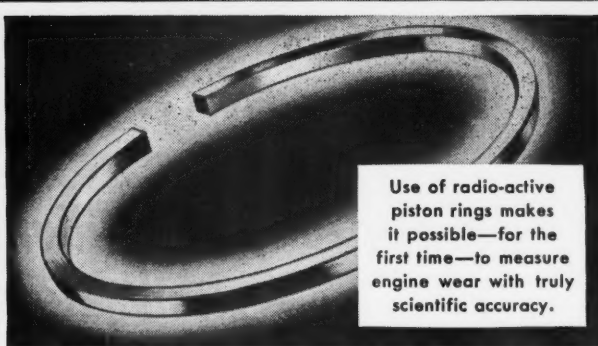
NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

AMAZING RADIO-ACTIVE TRACER TESTS PROVE —

# Mobiloil's Powerful NEW Wear-Fighting Action



## New Super-Detergent Formula Means Longer Engine Life — Fewer Repairs!

*It's true*—proved by radio-active tracers from the Oak Ridge atomic pile! Mobiloil's new combination of ingredients can *stretch* the life of car engines—can drastically reduce engine wear during the periods when most wear occurs ... during starts and warm-ups, and stop-go driving. Less engine wear means less spent on repairs, improved oil economy, too!

*Here's how we prove it*... Radio-active piston rings are installed in test engines. "Hot" metal particles, scuffed off the rings into the motor oil, are then measured by Geiger counter. The result proves Mobiloil with new super-detergent formula provides new *wear-fighting action*—for top performance, peak operating economy!

WHY SELL LESS THAN THE  
**World's Largest-Selling Motor Oil**



SOCONY-VACUUM OIL CO., INC., and Affiliates: MAGNOLIA PETROLEUM COMPANY, GENERAL PETROLEUM CORPORATION



# These Products have Acceptance

**Packard**  
REG. U.S. PAT. OFF.  
TRADE MARK

Packard Electric Division, General Motors Corporation -  
Warren, Ohio

**FOREMOST BUILDER OF  
AUTOMOTIVE AND AVIATION WIRING**



## PACKARD LOW-TENSION CABLE

As with Packard's other products, Packard low-tension cable is used as original equipment on more cars, trucks, buses and tractors than cable of any other make. Packard's "249 Compound" insulation, by every laboratory test and by the test of long, hard usage, has exceptional resistance to heat, oil, chemicals and abrasion.



## PACKARD IGNITION CABLE

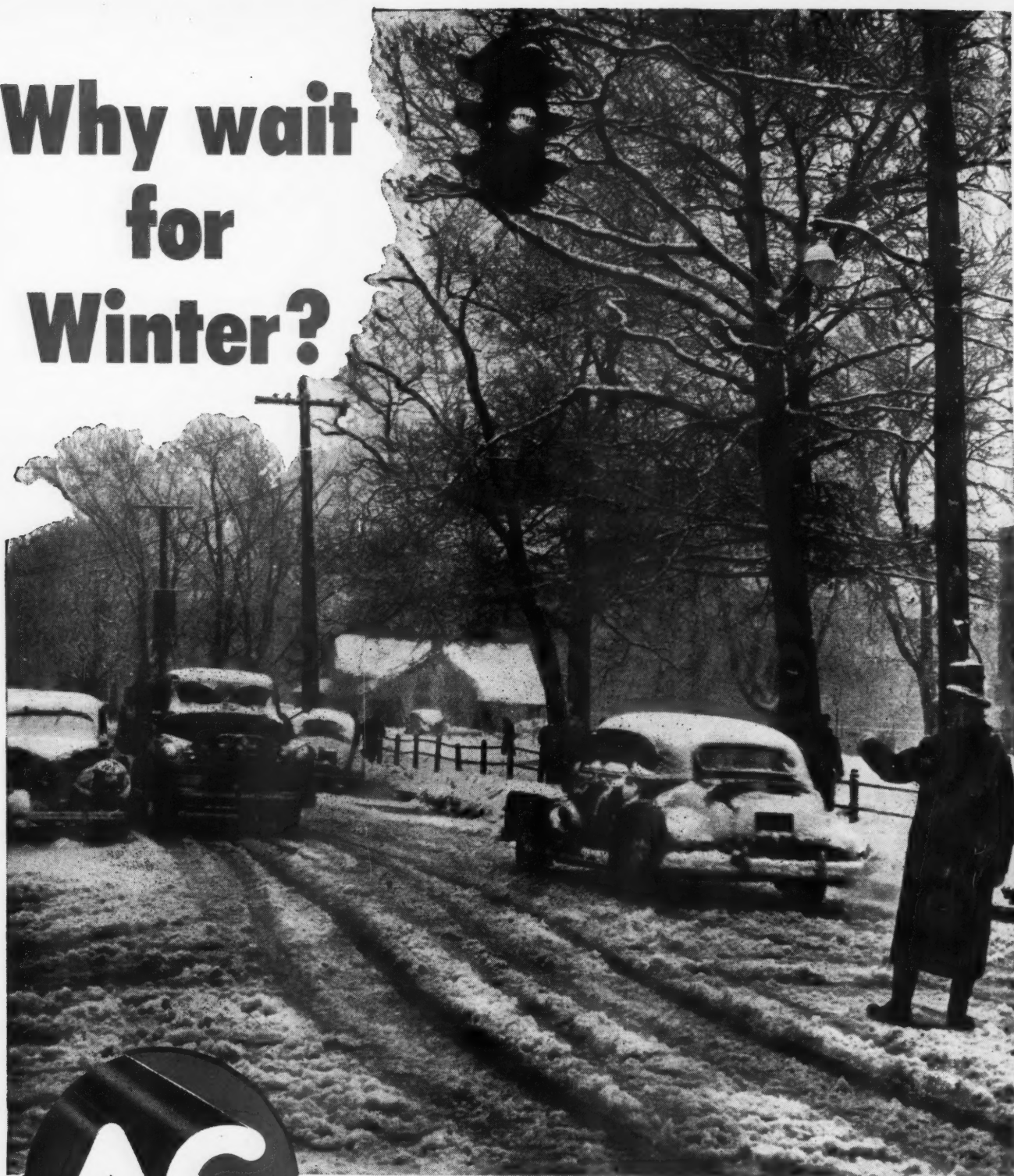
Long considered the "standard of the automotive industry," Packard high-tension cable is used as original equipment on more cars, trucks, buses and tractors than cable of any other make. Packard FOUR-FORTY and Packard LAC-KARD ignition cable are designed to deliver balanced performance in every make and model car, truck, bus and tractor in operation today.



## PACKARD BATTERY CABLE

Packard battery cables are used as original equipment on more cars, trucks, buses and tractors than cables of any other make. Packard battery cables are full size, full weight . . . are available with LEADALLOY terminals or leaded brass terminals. Both types are packaged in individual cartons—both deliver top performance—both have acceptance, everywhere.

# Why wait for Winter?



**AC**

**QUALITY  
PRODUCTS**

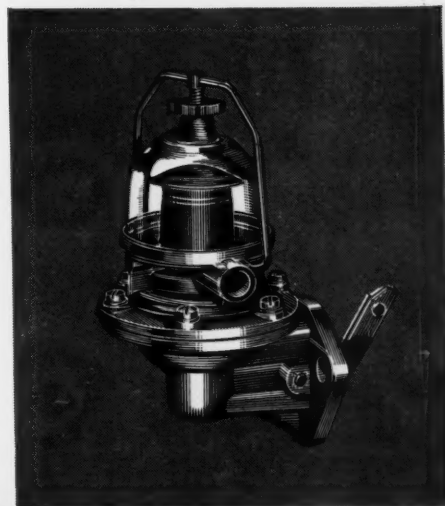
**... mean the most  
when the weather  
is at its worst!**

# CASH IN ON COLD WEATHER SERVICE NOW!

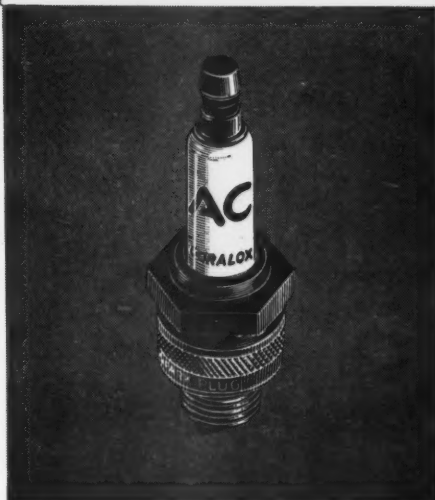
Beat your competitors to those winter profits! Get your customers' cars ready for cold weather — now — with AC Quality Products. They're time-tested for superior service during wintertime or at any time of year.



**With Patented CORALOX Insulator** — Factory equipment on more new cars than any other make of spark plug.



**The Industry's Fastest-Growing Line** — Original or approved equipment on Buick, Chevrolet, Cadillac and Olds.



**The Only Complete Line** — More than 100,000,000 have been built — more than 40,000,000 are in daily use.

**SPEEDOMETER CABLES • AIR CLEANERS • FLEXIBLE LINES • GAS STRAINERS**

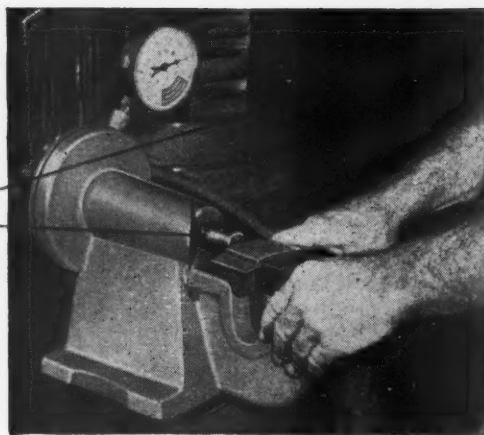
AC SPARK PLUG DIVISION  GENERAL MOTORS CORPORATION



# All Brake Shoes



Wedge mark indicates  
750 lbs. per square inch  
ram-pressure  
applied here.



You can depend upon Wagner quality because  
Wagner products are used as original equipment  
by automobile, truck and trailer manufacturers.



# Wagner

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • NoRol • CoMoX BRAKE LINING • AIR BRAKES

# Bonded by Wagner with CoMaX Lining are *Pressure Tested*



750 LBS. PER SQUARE INCH RAM PRESSURE—that is the final test before shipment of each shoe lined by Wagner with CoMaX Brake Lining “bonded on”.

Wagner uses special equipment to exert this tremendous pressure against the lining to test its firmness of bond to the shoe. The little “wedge mark” left by the powerful ram indicates that the bonding withstood this rigorous test. It means that

when you install Wagner lined shoes you know that they have each been individually tested as an added precaution against failures that cause “comeback” jobs.

WAGNER CoMaX BRAKE LINING is also available in bonded or drilled sets. Also in rolls, blocks, slabs, or cut segments.

For details, consult your Wagner jobber or write us.

## Wagner Electric Corporation

6498 PLYMOUTH AVE., ST. LOUIS 14, MO., U. S. A.  
(Branches in principal cities in the U. S. and in Canada)



*The 3R's for better brakes...*

**REFILL** with Wagner Lockheed Brake Fluid

**REPLACE** with Wagner Lockheed Brake Parts

**RELINE** with Wagner CoMaX Lining

B52-6

*...the best known  
name in brake service*

Please send me the latest Bulletins on Hydraulic  
Brake Servicing—HU-17H, HU-197.

NAME \_\_\_\_\_

FIRM NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_

STATE \_\_\_\_\_



TACHOGRAPH • ELECTRIC MOTORS • TRANSFORMERS

INDUSTRIAL CRANE BRIDGE BRAKES



Harold J. Runnfeldt  
Runnfeldt & Belmont  
Oak & Chestnut Streets  
Winnetka, Illinois

# "I've Made Money on WEEDS since Way Back When"

*"I sold regular WEED tire chains way back when they were used mostly for traveling on muddy roads. Now I sell WEED V-Bar chains which last so much longer on hard roads. I never stopped selling WEED chains because everybody knows them and they always give good service. I make money selling WEED tire chains."*

**Don't  
S'kid Yourself**

#### STOPPING ON GLARE ICE AT 20 M. P. H.

.....77 ft.	with Reinforced Tire Chains
Natural Rubber Tires*	.....209 ft.
Winterized Tires	.....188 ft.
Mud-Snow Tires	.....201 ft.

\*For stopping or starting on ice or snow, synthetic rubber tires skid or spin 10% to 50% more than natural rubber

(ALL FIGURES IN THIS PANEL ARE QUOTED FROM NATIONAL SAFETY COUNCIL TESTS)

#### TRACTION ON PACKED SNOW

In pulling power tests on hard-packed snow, conventional natural rubber tires\* registered 301 lbs., winterized tires 268 lbs., mud-snow tires 374 lbs., and reinforced tire chains 1120 lbs.



# WEED V BARS

**The Tire Chain that Doubles the Wear  
and Doubles the Bite on Ice or Snow . . .**

● Yes, and you'll make money if you get your display of WEED chains set up early. You'll have time to show your customers the WEED V-Bars' flaring reinforcements with 288 gripping points that double the bite on ice or snow. Their opposite right-left construction gives two-way grip and balanced traction. So, WEED V-Bars stop

shorter and safer, start quicker, hold straighter and wear longer especially when snug.

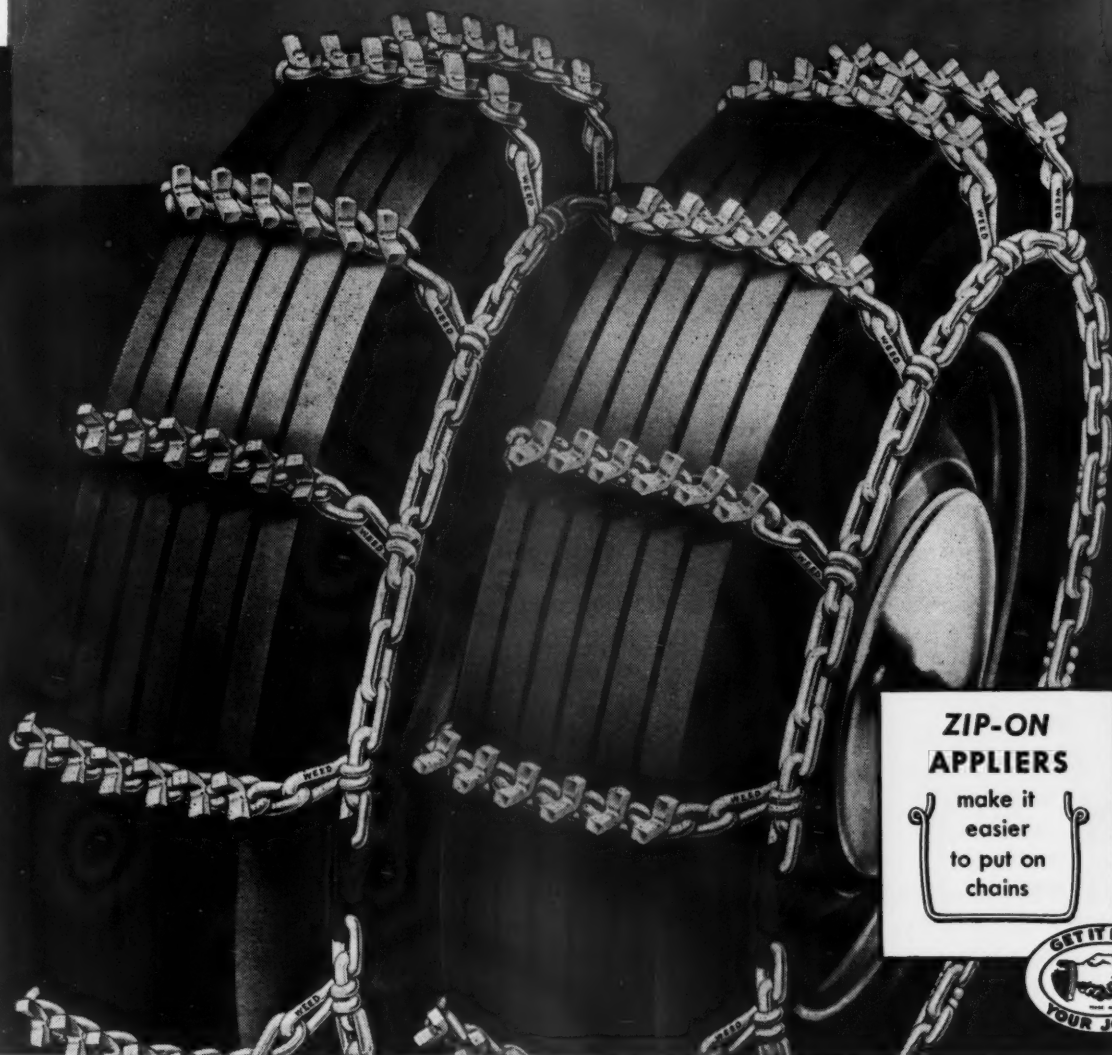
● WEED Zip-On Appliers make it easier to put on chains. Sell a pair of Zip-Ons with every pair of WEEDS.

**ACCO**



**AMERICAN CHAIN & CABLE COMPANY, INC.**  
York, Pa. • Bridgeport, Conn.

**Flaring Reinforcements with Right-Left Construction  
GIVE DOUBLE GRIP and REDUCE SIDE-SKID**

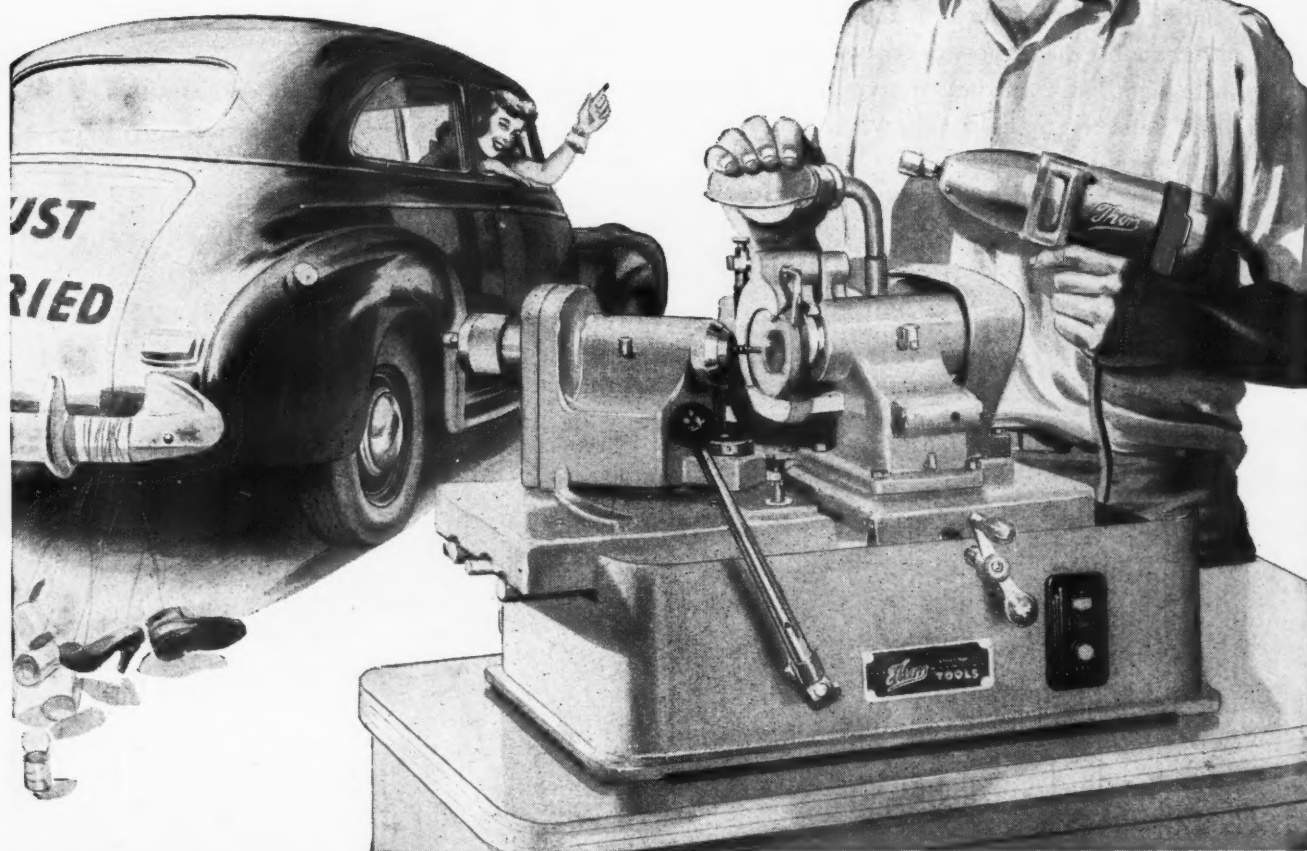


**ZIP-ON  
APPLIERS**

make it  
easier  
to put on  
chains



# Good thing the shop is equipped with Thor tools!



"Emergency Service" is STANDARD SERVICE in your shop when you're equipped with Thor Power Tools . . . the amazing new Thor Impact Wrenches for tear-down and reassembly in minutes instead of hours . . . the precision-built Thor VALVE REFACER and SEAT GRINDER that make any mechanic a valve expert over night . . . powerful drills, sanders, polishers. These are the REAL money-makers in the service industry today. Ask your jobber for a Thor Catalog. Or write "Thor Tools," Aurora, Ill.

**VALVE REFACERS • VALVE SEAT GRINDERS • SANDERS  
IMPACT WRENCHES • POLISHERS • DRILLS • SAWS  
BODY AND FENDER HAMMERS • GRINDERS • HAMMERS  
BENCH GRINDERS • SCREWDRIVERS • ACCESSORIES**



FACTORY SERVICE BRANCHES IN 20 PRINCIPAL CITIES

# Join the Switch to Exide...



**DO IT NOW!** Exide offers more than ever before... more of everything you need to build a fast-growing, money-making battery business.

**EXIDE DEPENDABILITY...** batteries you can trust, a top-ranking requirement of the car owner.

**EXIDE LONG LIFE...** proved through the years... now longer than ever before.

**EXIDE NAME...** known to millions through years of consistent national advertising... over 130,000,000 messages in 1952.

**EXIDE BATTERIES ARE FULLY GUARANTEED NATION-WIDE.**

**THE COMPLETE EXIDE LINE,** with a price range that gives both dollar-savers and quality-seekers *more for their money*. Backed by **EXIDE'S PROVED SERVICE ROUTINE** that's a sure-hit business booster and profit maker.

**AND... VERY IMPORTANT...** The Exide Distributor is an excellent supplier. You can count on him for fresh stock... prompt deliveries... quick, fair adjustments... reasonable terms.

**THE ELECTRIC STORAGE BATTERY CO.**  
Philadelphia 2  
*Exide Batteries of Canada, Limited, Toronto*



**ULTRA START...**

New leader of the famous Exide line.

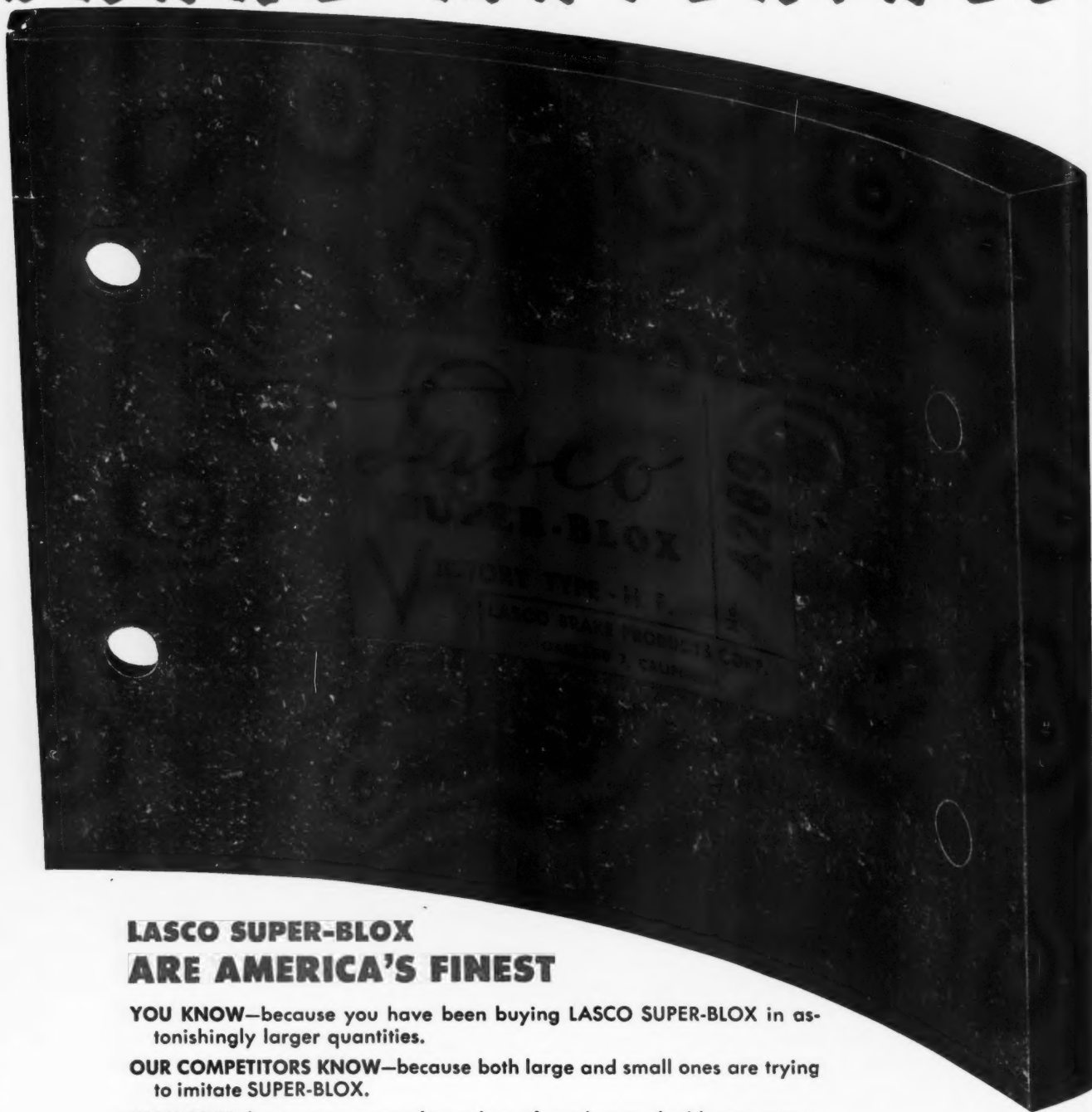
**ACT TODAY...**  
**Switch to Exide**

**WHEN IT'S AN Exide... YOU START**

"EXIDE" Reg. T.M. U.S. Pat. Off. "ULTRA START" T.M. Reg. applied for



# AMERICA'S FINEST BRAKE MATERIALS



## LASCO SUPER-BLOX ARE AMERICA'S FINEST

**YOU KNOW**—because you have been buying LASCO SUPER-BLOX in astonishingly larger quantities.

**OUR COMPETITORS KNOW**—because both large and small ones are trying to imitate SUPER-BLOX.

**WE KNOW**—because your purchases have forced us to double our manufacturing capacity on SUPER-BLOX three different times in 6 years.



## LASCO BRAKE PRODUCTS CORP., LTD.

EASTERN HEADQUARTERS • 2131 LOCUST STREET • ST. LOUIS, MISSOURI  
SOUTHERN HEADQUARTERS • 300 MADISON AVE. • MEMPHIS, TENNESSEE  
WESTERN HEADQUARTERS • 2615 MAGNOLIA ST. • OAKLAND, CALIFORNIA  
KANSAS CITY, 1620 McGEE STREET • FORT WORTH, 910 FLORENCE STREET

Los Angeles

San Francisco

Sacramento

Portland

Seattle

Spokane

Salt Lake City

## LAHER INDUSTRIES



BONG BONG BONG

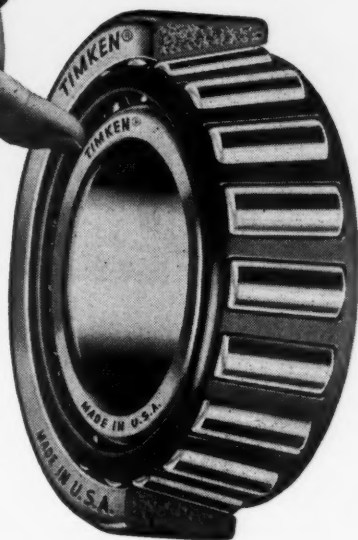


Want to ring the bell  
with customers?

If you want customers spreading the word about your high quality service, be sure to let them know you use the best replacement parts. When you install a new tapered roller bearing, always point out the trade-mark "Timken®". Customers know it stands for quality and top bearing performance.



Just tell 'em it's "TIMKEN®"

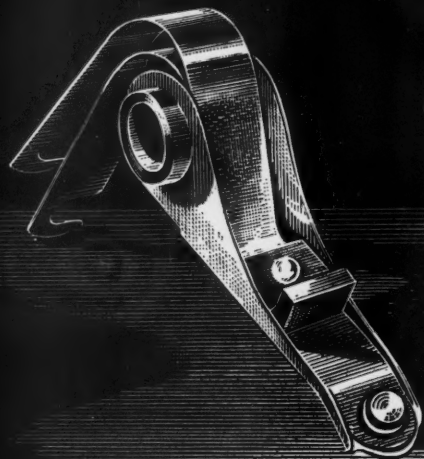


**T**IMKEN bearings are rated first choice for original equipment by leading car manufacturers. That's because Timken bearings have: 1) advanced design, 2) special analysis steels, 3) precision manufacture, 4) complete quality control. It will pay you to make sure all the tapered roller bearings you use for replacement are marked "Timken". **FREE BOOKLET!** Send today for "Timken Tapered Roller Bearings, Their Care and Maintenance" to Dept. AM-10, The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO."

**TIMKEN** TAPERED  
ROLLER  
BEARINGS

TRADE-MARK REG. U. S. PAT. OFF.

NOT JUST A BALL NOT JUST A ROLLER THE TIMKEN TAPERED ROLLER BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION



**ANOTHER ONE OF BLUE STREAK'S  
36,000 BOOSTERS!**

One thing is certain: this Blue Streak contact can take more punishment with less squawking than any other contact in the business. That's why it outlasts them all.

It has a contact area that is 55.4% larger than ordinary points — a special Blue Streak feature to reduce the heat of the arc-at-break. Instead of ordinary tungsten, the Blue Streak point is made of high amperage tungsten. Not only can it carry more current, longer — it does so with hardly any burning or pitting. The full length copper shunt cuts down resistance — allows the coil to deliver full power.

And, for all this "reputation insurance," you pay only a few pennies more. *Standard Motor Products, Inc., Long Island City 1, New York.*

***Better your Business...  
Buy Blue Streak***



Neal Franklin, ex SMU All-American football player and outstanding tune-up specialist in El Paso, thinks BLUE STREAK is "the top ignition line. When I tune-up with BLUE STREAK I know I'll get complete customer satisfaction."



COILS • POINTS • CONDENSERS • VOLTAGE REGULATORS • HEADLIGHT RELAYS • DISTRIBUTOR HEADS & ROTORS • DIMMER SWITCHES • WIRE & CABLE





# Big BUICK Dealer SERVED BY ARO



Charles R. Waller (seated), President, and Harry Hollywood, General Manager, Western Ave. Sales Inc., Chicago.

"... over 2,000 service customers a month!"

"We have chosen complete ARO lubrication equipment because of its speed and efficiency demanded in handling over 2,000 service customers a month!"—says Charles R. Waller, President, Western Ave. Sales Inc., largest Buick dealer in Chicago and the Mid-West.

Note the combination of ARO overhead reels, wall cabinet units and portable drains . . . outstanding eye-appeal *plus* features to *save time, improve service and increase lube profits!* See your ARO Jobber.

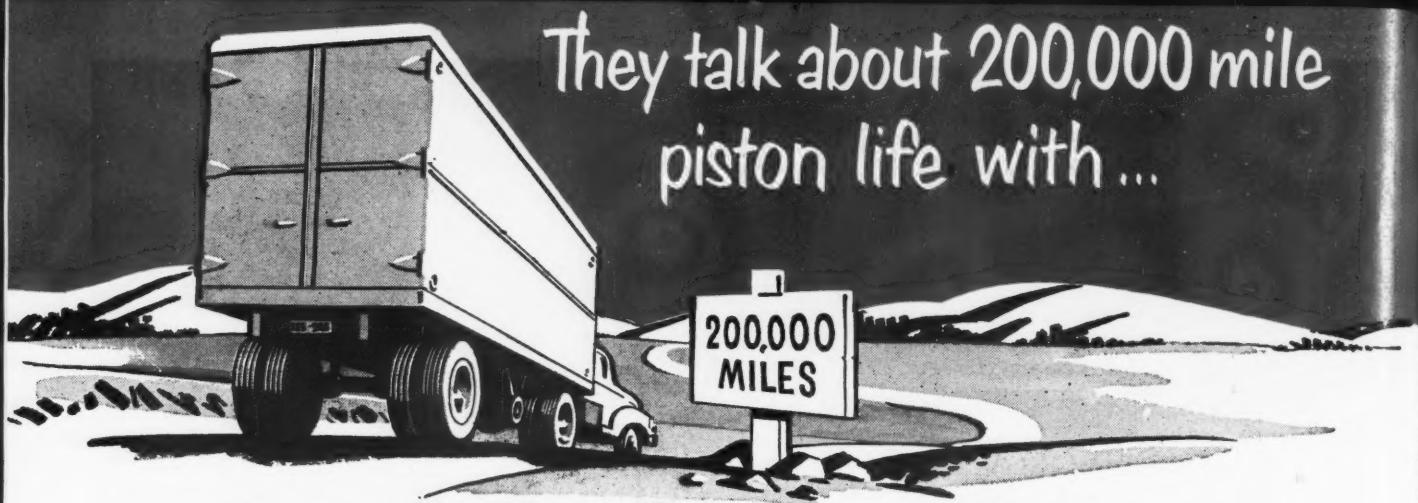
The Aro Equipment Corporation, Bryan, Ohio.

ARO Equipment of Canada, Ltd., Toronto, Ont.

## ARO

*The Leader!*  
**LUBE EQUIPMENT**

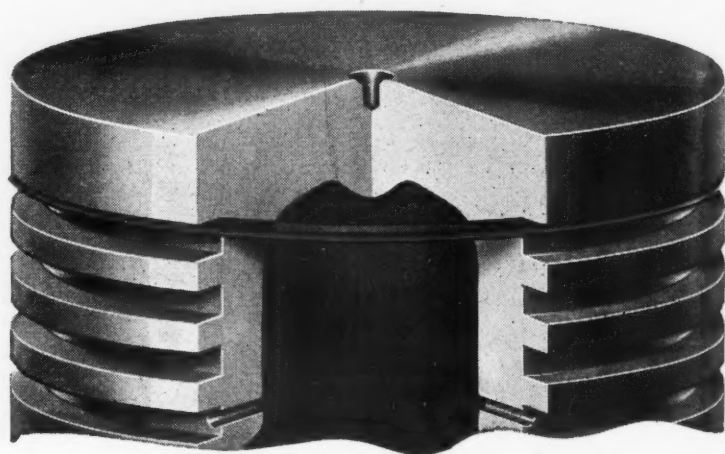
Also . . . AIR TOOLS . . . HYDRAULIC EQUIPMENT . . .  
AIRCRAFT PRODUCTS . . . GREASE FITTINGS



They talk about 200,000 mile  
piston life with...

# GI-60 Groove Insert

That's right! Fleet owners report amazing results from pistons equipped with GI-60 Groove Insert, the only dependable, economical answer to top-ring groove wear. It works equally well in new or resized pistons. One operator says average piston life in his fleet has risen from 50,000 miles to better than 200,000 miles since making a standard practice of installing GI-60. Both the inserts and the tools for installation are exclusive products of Sealed Power.



Old pistons quickly restored to active duty by

**Sealed Power**  
**SUPER-SIZER**

**The World's Best Piston Resizing Method!**

- 1 Finished size accurately controlled by split-second timing.
- 2 Transforms surface metal of piston-pin boss areas into a forged-like structure, making expansion permanent.
- 3 Does not disrupt thrust face surfaces of pistons.
- 4 Retains original cam-ground shape of piston.
- 5 Eliminates piston slap and increases ring life.
- 6 Original close fit of piston is restored.
- 7 Black dry film lubricant provides positive initial lubrication.



**Sealed Power Corporation**

MUSKEGON, MICHIGAN

# NEW Scene

NEWS DIGEST OF THE MONTH IN PICTURES AND FACT • • OCTOBER 1952

## Sports Car Lure for 1953

A field of activity that will get greater play next year is the sports car. Buick and Packard already have built and shown such cars, although neither has stated definitely that it will put them into production.

Most likely candidate to get into the field first, however, is Buick with its Skylark. Cadillac also is said to be working on some type of sports car. The biggest problem is to determine the size of the market for these expensive cars, which sell in the neighborhood of \$5000. Apparently there is no sound market data to go on, but obviously the market is a limited one.

## Hudson Plan Ambitious

Hudson, with its new lightweight car in the low priced field, has ambitious plans to market about 200,000 of the cars a year. The company has been making an active drive for dealers for the past several months and would like to add 1000 new outlets to the nearly 2000 dealers it now has—a 50 per cent expansion.

The new light Hudson is an attractive car with large glass areas, good styling, and reasonable interior body room. Its wheelbase and over-all length are not the shortest in the industry, but are less than that of the Big Three volume lines with which it is supposed to com-

pete price-wise. Its performance should be exceptional with a 100 hp engine and a total overall weight of 2800 lbs.

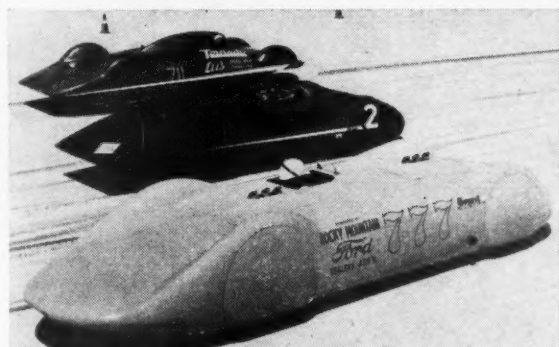
Entry of Hudson into the field will bring to four the number of independents offering such units—Nash Rambler, K-F's Henry J, the Willys Aero, and Hudson.

## What About Light Cars?

Light cars already have received fairly good reception, but there is some question about the size of the market. Last year production was around 122,000, or approximately 2.27 per cent of total passenger car output. This year, while the total number is down because of production limitations, the percentage of the total will be higher, about 2.6 per cent. Even so, however, it appears that the light car market is one for the independents rather than for the Big Three volume producers.

## Two-Tone Colored Tires

Colored automobile tires to match the finish of the car are a distinct possibility in the future. One of the large tire manufacturers is working on such a development. The tires would be a two-tone affair with the color in the side walls only. The tread surface would remain black.



At the 1952 Bonneville National Speed Trials at the famous salt flats, the three high-speed buggies pictured above created much interest. Nearest the camera is the sleek 777 twin engine streamliner, which Bill Kenz of Denver has piloted at 230.7 mph.



Vivacious Perdita Chandler, Hollywood actress, travels around town on her chauffeur-driven motor-cycle. There may be some disagreement about the fitness of the costume for the mode of travel but the objections undoubtedly will all come from the women.





On behalf of P.A.T.A. E. J. Ronan presents awards to W. F. Hufstader, L. S. Clarke, P. G. Hoffman and E. G. Budd, Jr.

### **A Spectacular Dealer Celebration**

Philadelphia dealers celebrated the Golden Anniversary of the founding of Philadelphia Automotive Trade Association in spectacular fashion last month.

First there was an Automotive Industries Show, displaying current models and several sports models which attracted 84,824 people to come out and see the cars.



Mid-week of the celebration 1000 dealers and guests gathered in the ballroom of the Bellevue-Stratford for a Golden Jubilee Birthday Party, presided over by President E. J. Ronan and chairman J. E. Wolfington. The Association was honored by the Chamber of Commerce of Philadelphia with a citation. J. E. Henry, president of Automobile Old Timers, also presented a citation from the Old Timers on the occasion of the association's fifty years. President Ronan presented P.A.T.A. distinguished service awards to the following men whose careers in public life and in industry have been outstanding: Edward G. Budd, Jr., president of the Budd Company; Louis S. Clarke, founder of the Autocar Company; the Honorable James H. Duff, U. S. Senator from Pennsylvania; the Honorable John S. Fine, Governor of Pennsylvania; Paul G. Hoffman, president of the Ford Foundation and former president of Studebaker; and William F. Hufstader, vice president of General Motors Corporation. Mr. Hufstader, on behalf of the Inter-Industry Highway Safety Committee, presented J. E. Wolfington with a special award, and 119 dealers were given Inter-Industry Highway Safety Driver Training Awards on behalf of the committee.

### **Decontrol May Come Soon**

There is a report that chances are favorable for the parts industry to be decontrolled on prices before too long. Manufacturers say such a move would put them on a more practical price basis again, since under OPS regulations many items are priced unrealistically, with some too high and others too low. Decontrol will bring about a readjustment of prices on the basis of costs and competitive factors, with some items increased and others cut. General opinion is that the over-all price level would not increase drastically, however, but probably would work out at something like a 2 per cent increase.

### **12 Volt Ignition Problems**

The change to 12-volt ignitions by three General Motors Divisions, and Chrysler on the Imperial, will represent a parts inventory problem for dealers. Although demand for 12-volt electrical parts will be only a trickle for the first several months after new models are introduced, dealers will have to be in a position to supply needs in the event of failure. Present plans call for supplying dealers with 12-volt dry-charge batteries, lamps, and ignition parts first, since new car owners undoubtedly will go to the dealer for service. Later, however, probably within a year, 12-volt parts will be supplied to the independent service trade also. Adoption of 12-volt systems by all manufacturers is expected to come in the next few years, so the outlook for the next several years will be stocks of both 6 and 12-volt parts by all service establishments.

### **Man With A Mission**



**He'll Be Seeing You "After the Show"**

## Uses "Care" Campaign Successfully

"This Care Will Save Your Car Campaign is a money maker for me," says Al Parsons, proprietor of Car Conditioning Co. of Philadelphia. "I've been using a great deal of the display and mailing material regularly. It's tailor-made for my business. It reminds me to remind my customers and it's the easiest stuff to use. The displays you see here are regular salesmen that greet every customer who comes into my shop."



Al Parsons and sales tools

Al Parsons is an independent operator who has latched on to a new selling tool. He first learned about it from his jobber for there has been no trade meeting in Philadelphia as yet. One is being planned, however.

## New Orleans Trade Meeting

As *MOTOR AGE* went to press, the largest automotive trade meeting was scheduled in Detroit, Oct. 2, under the general chairmanship of G. Walter Kleinschmit of The Automobile Equipment Co., Detroit; 10,000 auto service men were expected to attend.

In New Orleans another big "Care Will Save Your Car" trade meeting is scheduled for Oct. 21 at the Municipal Auditorium there. Stanley J. Massett, president of the Associated Automotive Wholesalers of New Orleans, indicates that a crowd of 4000 to 5000 auto service men is on its way to the meeting.

## 1953—Competition Coming

Despite confusion arising from ill-advised pronouncements from Washington about cuts in steel allocations for the first quarter of next year, the automotive industry is looking for 1953 to be the year of competition.

DPA recently indicated that first quarter

steel allotments would be cut about 25 per cent. At the same time, NPA set first quarter production ceilings for the industry at 1.25 million cars and 315,000 trucks, the highest quarterly quota since imposition of controls. Obviously, the larger quotas could not be made under reduced steel allotments and a day or two later a corrective statement came out of Washington that enough steel would be available to build the quota allotted the industry.

There is a growing opinion that steel will be in extremely free supply by the first quarter of next year and that there is a good chance for production controls to be lifted by the end of next March. Automobile companies already are preparing for the competitive market that would result from unrestricted production. New models with fresh styling, new engines of greater horsepower, improved automatic transmissions, and optional accessories, such as power steering and air conditioning, are being prepared to lure the buyer. Sales forces are being sharpened up and sales training and promotion activities are increasing.

## Pressure On Dealer Discounts

Whether prices of new models are going to be increased very much is still an open question. Costs to the manufacturer have crept upward considerably since the last price increase, but in view of the competitive market expected in 1953, mark-ups may be less than generally expected. One thing is certain, however, and that is the squeeze on dealer discounts will be heavier with overtrading and discounting necessary to move the merchandise.

## Fuel Pump Developed

Electric Auto-Lite Company has developed a larger capacity fuel pump which it says practically eliminates vapor lock. The new pump has a capacity of 40 gallons an hour. Auto-Lite reports that it will be used as original equipment on several makes of cars.



In Syracuse recently seven hot rods came together a bit too violently. A lot of metal was dented but no shambles resulted. One driver was injured, but all of the others escaped without a scratch.

1  
Alabama  
Arkansas  
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District of Columbia  
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Iowa  
Kansas  
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# 1952 New Passenger Car Registrations by Makes by States\*

STATE AND MONTH	Buick	Cadillac	Chevrolet	Chrysler	Crosley	De Soto	Dodge	Ford	Henry J	Hudson	Kaiser	Lincoln	Mercury	Naah	Oldsmobile	Packard	Plymouth	Pontiac	Studebaker	Willis	All Others	Total
Alabama..... July	210	64	614	103	3	82	208	480	48	68	33	31	157	120	143	82	483	192	125	103	10	3,309
..... 7 Mos.	1909	394	6787	664	15	394	1805	5045	384	483	213	209	1181	751	1300	438	3359	1777	1161	410	49	28,408
Arizona..... July	150	23	288	42	1	52	66	185	37	29	19	25	99	57	62	29	186	96	82	19	21	1,538
..... 7 Mos.	982	187	2118	304	20	237	532	1767	213	250	90	87	668	286	561	212	975	703	646	112	131	11,061
Arkansas..... July	193	47	544	63	2	68	211	436	36	38	24	7	117	91	124	36	409	185	109	44	2	2,788
..... 7 Mos.	1174	252	3981	360	18	396	1148	3218	216	205	152	77	723	525	789	196	2392	1167	758	187	23	17,917
California..... July	1467	949	3097	917	9	673	1999	2692	157	825	509	285	1260	1305	1130	502	2691	1128	1199	381	1058	23,731
..... 7 Mos.	13182	5581	36746	8863	68	5267	11028	29513	917	4770	2089	1553	10890	7996	10513	3428	21606	11960	9887	2024	5911	201,794
Colorado..... July	201	63	404	110	3	55	172	358	9	81	18	28	118	101	163	45	282	161	79	50	18	2,505
..... 7 Mos.	1836	401	3737	724	35	383	1056	3446	69	590	102	176	950	692	1123	282	2221	1236	758	264	91	20,172
Connecticut..... July	306	131	636	165	6	140	401	511	44	140	69	54	207	239	285	118	577	305	168	103	92	4,674
..... 7 Mos.	2544	859	6493	1204	32	870	2837	5360	504	896	501	287	1598	1414	2222	820	3866	2300	1547	499	521	37,174
Delaware..... July	81	22	394	27	3	13	58	131	4	22	15	5	36	25	63	8	103	68	31	8	3	1,120
..... 7 Mos.	578	150	1758	163	14	107	431	1313	71	137	79	39	273	207	437	88	691	413	459	36	35	7,479
District of Col. July	113	54	367	62	1	34	130	1747	10	39	8	14	41	48	105	57	325	94	45	31	23	1,840
..... 7 Mos.	769	309	2700	397	4	218	906	1747	123	226	59	78	347	276	702	261	2586	809	359	95	97	13,067
Florida..... July	490	168	1284	173	35	114	412	821	92	84	38	68	300	281	306	157	694	300	192	152	101	6,244
..... 7 Mos.	3674	1085	9092	1335	217	781	3118	7783	758	851	340	450	2241	1682	2292	962	5005	2693	1777	701	897	46,931
Georgia..... July	407	117	991	122	2	79	357	789	36	67	42	39	257	124	260	69	611	375	184	83	16	5,067
..... 7 Mos.	3610	747	10437	1032	36	617	2745	8160	540	545	317	264	2074	939	2341	623	4946	3290	1862	406	154	45,605
Idaho..... July	131	29	360	58	2	40	114	213	8	61	13	15	87	76	103	32	190	118	60	50	11	1,797
..... 7 Mos.	871	192	2198	294	21	220	898	1654	64	385	150	72	612	447	596	211	1045	640	680	224	46	11,778
Illinois..... July	1857	643	4572	637	21	593	2146	3071	114	680	254	208	1127	1162	1241	449	3350	1508	788	147	51	24,827
..... 7 Mos.	14678	4007	33721	5396	147	4337	12234	27177	825	4818	1533	1087	7658	7749	9255	2847	22165	10495	6684	821	808	178,412
Indiana..... July	730	198	1960	316	7	265	722	1381	82	262	132	101	430	428	478	186	1274	682	524	132	26	10,366
..... 7 Mos.	5262	1227	15758	2092	60	1718	4360	11919	610	1568	816	447	2641	2720	3718	1124	8390	4721	5009	597	91	74,848
Iowa..... July	438	106	1020	177	2	132	408	777	22	61	58	40	244	236	246	102	699	399	189	48	8	8,412
..... 7 Mos.	3067	702	10048	1231	10	830	2621	7935	187	463	361	227	1980	1477	2169	552	1051	2642	1825	251	32	43,525
Kansas..... July	453	705	1216	217	2	110	451	990	45	183	69	45	352	288	356	129	785	457	207	58	6	6,803
..... 7 Mos.	2873	538	7945	1032	5	676	2311	6521	357	1005	484	208	1654	1646	1896	656	4055	2278	1461	234	27	37,881
Kentucky..... July	226	56	602	99	5	60	260	472	23	78	22	20	144	145	150	78	390	215	111	49	6	3,211
..... 7 Mos.	2024	403	6672	777	25	434	1974	5214	217	470	181	99	1056	1196	1471	439	3226	1810	1328	301	55	29,372
Louisiana..... July	264	71	856	113	4	119	239	654	33	43	41	28	154	142	184	104	528	255	144	59	8	4,043
..... 7 Mos.	1912	416	7111	792	38	653	1737	5387	294	269	289	171	1100	912	1432	593	3624	2106	1515	270	74	30,695
Maine..... July	68	26	259	41	2	46	90	160	27	44	15	6	45	61	64	15	168	82	40	28	11	1,313
..... 7 Mos.	688	162	2284	277	16	257	647	1628	201	239	131	77	394	362	605	122	1177	720	385	158	54	10,572
Maryland..... July	294	78	812	138	2	116	421	700	118	171	67	40	146	253	195	133	699	271	172	78	36	4,926
..... 7 Mos.	2349	530	8481	1088	19	856	2491	6639	738	1023	388	219	1493	1471	1834	719	4813	2279	1481	339	159	39,407
Massachusetts..... July	529	170	1153	275	18	274	734	891	80	212	79	87	298	511	415	159	1242	508	330	115	137	8,217
..... 7 Mos.	4679	1199	12489	2066	112	2068	5800	10019	751	1210	546	424	2568	2892	4542	1057	9069	4512	2795	581	653	69,292
Michigan..... July	1630	636	4506	479	8	427	1083	3182	85	366	229	208	732	785	996	327	1975	1498	435	151	43	19,780
..... 7 Mos.	13825	4618	37734	3630	61	2976	8746	33075	997	2659	1634	1200	6730	5364	9193	2335	15941	12644	4474	829	205	168,870
Minnesota..... July	536	117	1188	195	8	170	366	1228	26	112	87	30	374	199	358	145	847	439	239	28	15	6,699
..... 7 Mos.	4209	865	12765	1767	8	1329	3187	9845	271	742	542	199	2148	1574	2973	959	6754	3488	2880	267	75	58,645
Mississippi..... July	194	55	487	87	1	40	137	371	28	32	24	17	138	65	99	46	332	159	96	41	3	2,450
..... 7 Mos.	1572	308	4691	533	15	292	997	3464	232	209	147	106	838	499	889	296	2388	1249	931	193	19	19,867
Missouri..... July	512	122	1753	238	7	193	504	1377	63	100	59	44	397	414	408	132	1070	513	238	73	12	8,229
..... 7 Mos.	4189	916	14072	1561	40	1374	3309	11168	395	734	376	270	2476	2794	2729	971	7372	3452	2012	333	77	60,760
Montana..... July	148	40	404	61	4	40	104	256	11	60	22	17	91	55	124	36	212	99	80	38	3	1,901
..... 7 Mos.	911	226	2470	328	4	219	621	1919	60	341	98	68	539	258	699	157	1149	614	546	193	10	11,430
Nebraska..... July	217	49	526	110	1	53	166	446	6	68	17	18	159	106	134	48	391	224	101	21	2	2,863
..... 7 Mos.	2098	435	5062	797	15	395	1227	5099	98	344	179	149	1068	706	1219	301	2750	1726	1021	191	14	24,893
Nevada..... July	37	17	81	20	6	8	24	44	1	9	3	8	19	11	28	6	62	28	24	10	2	440
..... 7 Mos.	244	94	633	146	6	68	216	388	7	70	10	26	183	36	182	91	352	176	217	41	19	3,205
New Hampshire..... July	59	16	136	18	1	21	61	79	10	31	10	5	25	41	44	17	83	58	25	30	9	779
..... 7 Mos.	598	111	1867	223	12	158	558	1261	137	237	166	67	290	404	472	142	907	672	391	175	113	8,981
New Jersey..... July	965	409	2027	519	8	363	1127	1732	117	385	191	113	545	570	653	412	1551	968	478	247	161	13,541
..... 7 Mos.	6750	2160	16769	3173	76	2272	6277	13690	932	2248	1053	599	4097	2867	4888	2188	9351	6457	3680	1017	783	91,327
New Mexico..... July	101	26	188	42	2	28	75	159	4	33	2	8	86	42	69	31	144	87	52	36	3	1,218
..... 7 Mos.	840	161	1718	282	26	181	526	1354	31	186	30	73	525	281	458	174	984	559	547	153	43	9,132
New York..... July	2253	829	4526	1069	27	961	3001	2959	280	777	378	231	981	1318	1578	694	3284	1866	923	480	351	28,745
..... 7 Mos.	18571	5357	35123	7100	193	6617	16839	26896	2003	4477	2491	1458	8039	7279	12045	4330	20902	13745	7355	2346	2211	203,086
North Carolina..... July	538	126	1455	187	8	141	384	1052	70	86	64	46	234	206	335	147	825	458	216	160	30	6,768
..... 7 Mos.	3708	787																				



# Good Overhead Control Determines Business Profits

**All overhead expense should be prorated monthly so that each month is charged with its proper share of expenses contracted annually**

**T**O make maximum profits on automotive service and repairs, you must earn a satisfactory return on every job done in your shop. To do this, you must know your costs on each job. Labor, materials and overhead are the three main elements of cost. You charge up the cost of materials to each job from your suppliers' invoices. You charge up the time from the payroll records. So far, it is easy figuring.

## **Overhead Expense**

Overhead expense is a little more difficult. You cannot figure this the same way you figure labor and materials because you do not pay these expenses according to the job. They have no direct connection with job work and are recorded on the financial accounts as the bills are received by you, or you pay them. The outlay for burden is figured on a monthly basis because this is the most practical way to figure it on the financial accounts. On the other hand, the service and repair jobs that come in are not handled on a monthly basis, some take a few hours, others a day or two or longer. The financial accounting

and cost accounting for overhead expense follow two different patterns and it is this variance that gives the automotive businessman so many overhead-aches. How much rent, insurance, office expenses, etc., should he charge to each job?

Many operators distribute overhead expense to a job on a percentage basis. There is a flaw in this reckoning. If the sales volume for the current month is lower than the volume done in the period from which the percentage was taken, the overhead charged to each job will be too low and the operator will lose money on all the work done during the current period. Sales volume does fluctuate from month to month, consequently, the operator has this hazard to cope with all the time. For this reason, *time* is a better basis upon which to distribute overhead expense to service and repair jobs. Unlike the percentage method of allocation, which changes with the volume done, time never changes. There are always 60 minutes in an hour, so the operator who bases the overhead charge on the time spent doing a job is more likely to charge up enough

*(Continued on page 64)*

# Chilton's MOTOR AGE

An EDITORIAL

## That's What the Man Said

**I**N these times, above and beyond partisan politics, we harken back to the words of Abraham Lincoln who pointed out that YOU, personally and individually, are the American Government. Spoke the newly elected president on Feb. 11, 1861:

"In ALL trying positions in which I shall be placed, and doubtless I shall be placed in many such, my reliance will be upon you and the people of the United States; and I wish you to remember, now and forever, that it is your business, and not mine; that if the union of these States and the liberties of this people shall be lost, it is but little to any one man of fifty-two years of age, but a great deal to the thirty millions of people who inhabit these United States, and to their posterity in all coming time. It is your business to rise up and preserve the Union and liberty for yourselves, and not for me. I appeal to you again to constantly bear in mind that not with politicians, not with Presidents, not with office-seekers, but with you, is the question: Shall the Union and shall the liberties of this country be preserved to the latest generations?"

Automobile dealers are in the enviable position of being able to supply mass



transportation to voters in the various states where such is legal. Let's support N.A.D.A.'s non-partisan campaign to Get Out The Vote. "It is your business to rise up and preserve the Union and liberty for yourselves . . ." That's what the man said.

*Frank P. Tighe*

EDITOR



**M**ANY factors affect the front end geometry and wheel alignment of an automobile and each one of these should be studied before actually doing any work on the car. First of all, the frame must be in correct alignment. To align the front and rear wheels properly, the top and bottom surfaces of the front cross member must be parallel fore and aft, and the bolts of the front shock absorbers and the lower control arms must be of the correct size and in their proper locations. Wheel and tire balance should also be perfect as it has an important effect on steering and tire wear. If the wheels and tires are out-of-balance, shimmy or tramp may develop or tires may wear unevenly and give the erroneous impression that the wheels are not in proper alignment. Therefore, the wheels should be balanced before assuming that the front end is out of line. The major factors to consider in correct alignment of the front and rear wheels are: front wheel caster, camber, king pin inclination, toe-in and turning angles.

Caster is the fore and aft angle or tilt of the king pin with reference to a line at right angles to the road. When the top end of the king pin tilts rearward, the caster is positive. When the top end of the king pin tilts forward, the caster is negative. Camber is the outward or inward angle or tilt of the wheels with reference to a line at right angles to the road. When the top of the wheel tilts outward, the camber is positive. When the top of the wheel tilts inward, the camber is negative or reverse.

King pin inclination is the inward angle or the tilt of the king pin toward center line of the car with reference to a line at right angles to the road. Toe-in is the setting of the front wheels so that the distance between them is less at the front than at the rear, when wheels are in the straight ahead position. Steering geometry is the front wheels in proper relation to each other in making right or left turns. As the wheels are turned sideways the inside wheel must turn to a greater angle than the outside wheel in order to compensate for the difference in the turning radius of these two wheels. This is necessary to avoid side scuffing of front tires on the turn.

#### Front Wheel Alignment Procedures

Close limits on caster, front wheel camber and king pin inclination are beneficial to easy steering, but require only reasonable accuracy to provide normal tire life. In any type of front suspension, the toe-in adjustment is much more important than caster and camber so far as tire

by Jack Montgomery

Technical Editor

# Important

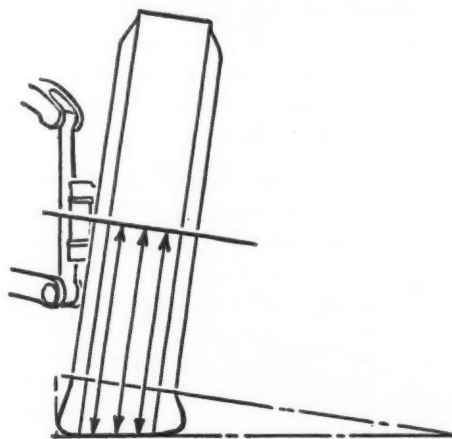


Fig. 1. Cambered wheel tends to roll in the direction of its camber by the contact of the tire on the road.

wear is concerned. Caster and camber adjustments need not be considered unless visual inspection shows these settings to be out and unless the car gives poor handling on the road.

The use of an accurate front end alignment machine is essential to determine whether front suspension parts have been damaged by shock or accident and to obtain correct alignment settings. Before any attempt is made to check or make any adjustments affecting caster, camber, toe-in and king pin inclination, or steering geometry, the following inspection should be made to be sure of correct alignment of equipment readings and alignment adjustments.

Steering complaints and rapid tire wear are generally caused by misalignment due to parts being bent, worn or out of adjustment

# Factors in Wheel Alignment

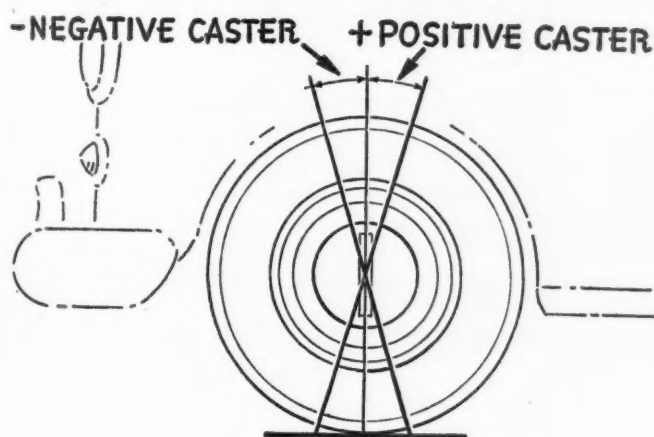


Fig. 2. View of spindle and wheel showing direction of positive and negative caster.

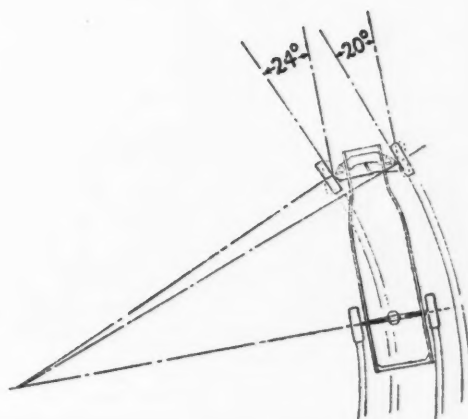


Fig. 3. How turning radius is measured. Note inside wheel turns further than outside.

The front tires should have approximately the same amount of wear and all tires should be inflated to the specified pressures. Wheel bearings should be checked for looseness and adjusted if necessary. Run-out of the wheels and tires should be correct up to a limit of  $\frac{1}{8}$  inch run-out at side of tires. Wheels and tires should also be in balance. King pins should be checked for looseness and so should the tie rod ends. If play is excessive, they must be corrected before alignment readings will have any value. Shock absorbers should be checked. The car must be on a level surface and at curb height—no passengers, no load in car, spare tires in place and

full of water, oil and gasoline. Bounce car at front and rear end several times to allow frame to come to its normal level. Check spring dimensions and make any correction indicated.

Since caster and camber are both adjusted on most cars by turning the eccentric upper knuckle support pivot pin, both of these settings must be checked before changing either. Caster and camber should be within specified limits. Note that the caster angles at both front wheels need not be exactly the same but must be within  $\frac{1}{2}$  degree of each other. Likewise the camber angles on both sides must be within  $\frac{3}{4}$  degree

(Continued on page 66)



"Look, Chief," said Tommy. "A peace offering!"

## Pop Stops a Runaway

**T**OMMY WINTER stood with the receiver tightly clenched in his left hand. He listened intently, and as he listened a deep furrow creased his forehead. At last he cleared his throat.

"Well I don't know what I can do Mrs. Parsons," he said, "but I'll certainly be glad to come over and try. Yes right away." He hung up the receiver and turned toward Pop O'Neill. Mrs. Parsons just called. No brakes on her car ap-

parently. Said the pedal is completely soft but it was all right when she started to drive her husband to work this morning. Wheel cylinder or master cylinder I guess. I'll go pick up her car."

"I'm pretty well caught up right now, Tommy," said Pop. "Suppose I get it? Save you making the trip."

"Well," Tommy cast a dubious glance at Pop. "I think I'd better go," he said at last.





Pop O'Neill



by Charles M. Kenyon, Managing Editor

"All right," Pop agreed. "If you don't think I can handle it, go ahead."

Tommy took the boss's kidding seriously. "No it isn't that, Pop," he said. "It's well . . . Mrs. Parsons has another job she wants me to do too. Young Pete has moved out into his tepee in the back yard and won't come into the house. She thinks that well . . . you know I used to be on the high school football team . . . well he thought that I was quite a . . . well he liked me a bit and

Tommy did a fine job of bringing the customer's boy under control, but no psychological treatment could fix her car. It took Pop to find the trouble

. . . well she thought maybe if I spoke to him he'd listen to reason."

Pop ran his own hand over his glistening crown then slapped his ample paunch. "All right," he laughed. "I can hardly pinch hit as a football hero these days, but you can bring the car back all right."

When Tommy reached the Parsons' home, Mrs. Parsons beckoned him into the kitchen.

"Tommy," she said. "We can't do a thing with him. You know how all children seem to have gone crazy over Hop-a-Long Cassidy these days. But not our Pete! He now insists we address him as "Pinto," but he caught the steer by the tail instead of the horns apparently. He began by feeling sorry for the poor Indians. Then he began to think that Indians were better riders than cowboys. Then he reached the point where cowboys were no good at all and all Indians became supermen. He even holds it against his father and me that he doesn't have a good red skin himself. Matters reached a pretty pass this morning when a birthday present came from his grandmother. It's these cowboy's guns. Aren't they beauties?" She held them up toward Tommy and he took them in both hands.

"They certainly are," he said. "If I were a boy that would be one of the best presents I could think of getting."

"Me too," agreed Mrs. Parsons. "But not Pinto. He is highly insulted. They are White Man's magic and bad medicine and he wants nothing to do with them. I'm afraid I lost my temper and we got into a bit of an argument about it. Finally he packed up his favorite belongings and moved out into the tepee. He insists that he's never coming back into the house. He's been out there now for three hours. Hasn't eaten his breakfast. Didn't see his father off to work. Hasn't done a thing except sit there cross-legged. His grandmother would be terribly hurt if he doesn't acknowledge the birthday present."

Tommy shot her a quizzical look. But he could tell by the worry in Mrs. Parson's eyes that she

(Continued on page 68)

# How Auto-Lite Fuel Gages Operate

Understanding the fundamentals of operation of these two gages will be helpful in servicing all makes of gages on all current model cars

by John K. Montgomery  
Technical Editor

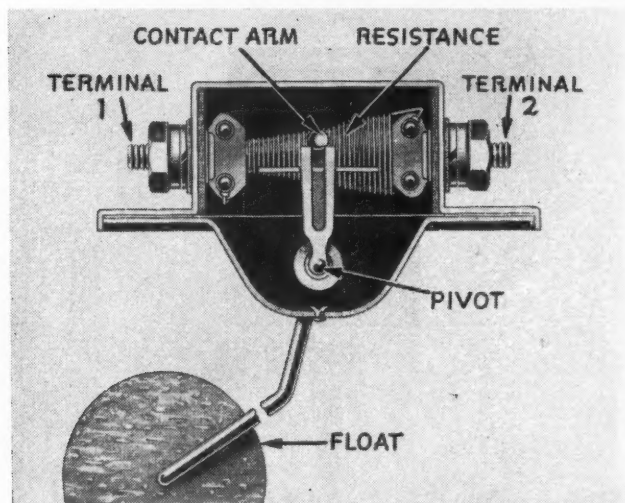


Fig. 1. The two-terminal fuel gage used with a thermal type dash unit. The float moves the contact arm.

Fig. 3. Phantom view showing the construction of a dash mounted thermal type fuel gage.

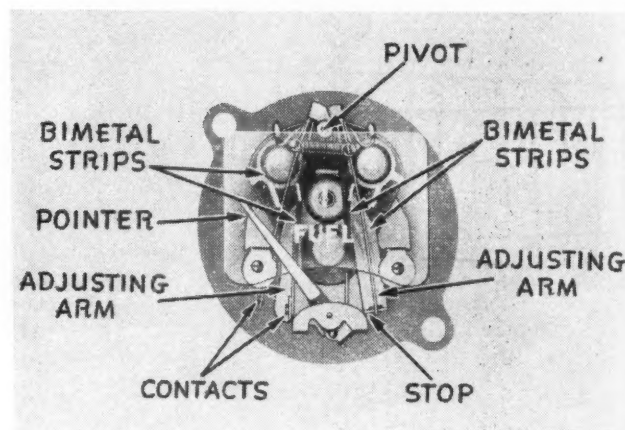
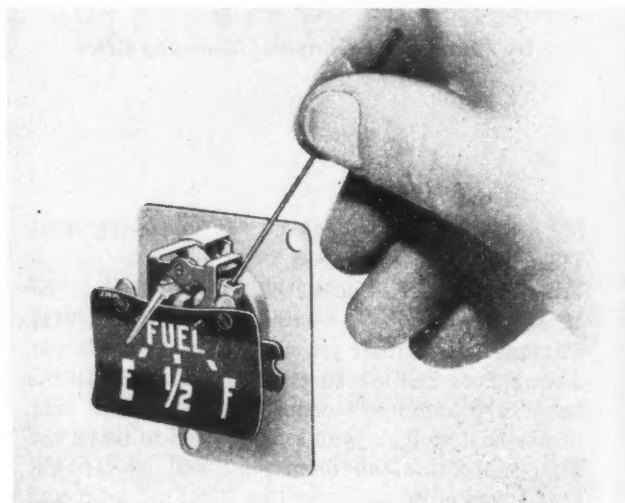


Fig. 5. Adjusting the magnetic fuel gage dash unit.



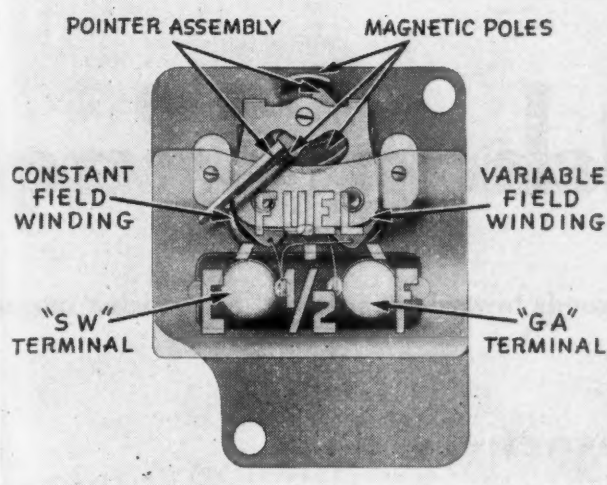


Fig. 2. Phantom view showing the internal parts layout of a dash mounted magnetic type fuel gage.

Fig. 4. The magnetic fuel gage tank and dash units. Resistance controls magnetism in the dash unit.

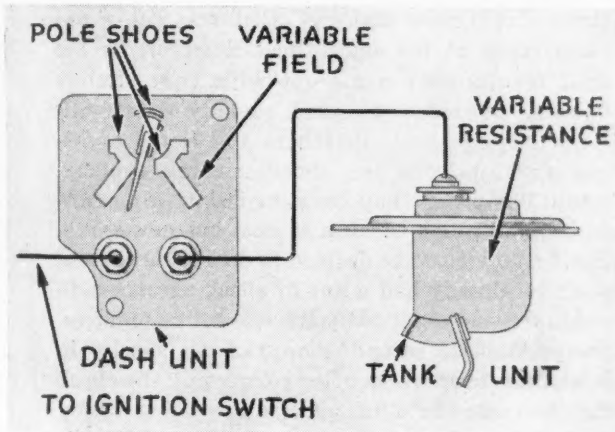
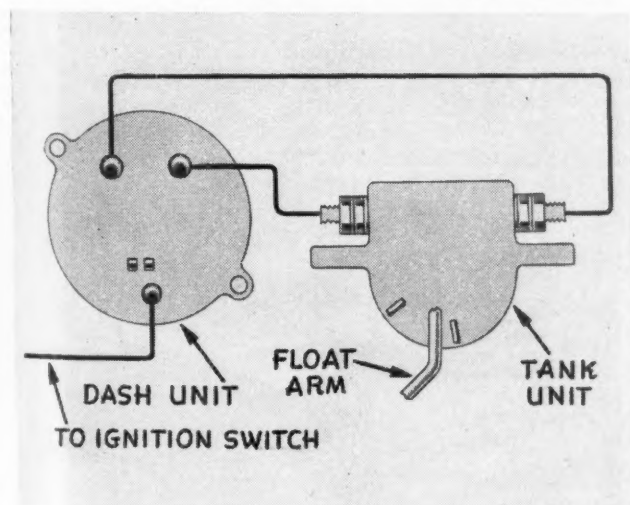


Fig. 6. Wiring diagram of thermal gage circuit.



THE tank unit consists of a resistance with a sliding contact which is actuated by a float. This resistance is connected to the dash unit and varies the current in the dash unit windings to give the meter indications. Tank units may have one or two terminals and have different circuits and characteristics that are designed for use with a particular dash unit and tank shape or size.

The tank unit must be grounded to complete the circuit and for ungrounded or two wire systems, a lead must be installed from the tank unit case to the dash unit frame. Usually terminals are provided for this ground circuit when the units are designed for a two wire system. The length of the float arm and the angle of movement are designed for certain sizes of tanks while the form of the insulating block, on which the resistor is wound, depends upon the shape of the tank. The angle of float movement is not always proportionate to the amount of fuel in the tank and the resistor shape is designed to offset the variations to give a definite change in resistance for each like change in fuel amount.

Two types of dash units have been designed. There is a magnetic type dash unit which is illustrated in Fig. 2 and the thermal type which is illustrated in Fig. 3.

The magnetic type has three poles, two of which have windings. One of these windings is connected to the ignition switch and ground and creates a steady magnetic pull towards the "empty" position, whenever the ignition switch is turned on. The other winding is connected to the ignition switch, but it is grounded by the tank unit. It creates a magnetic pull toward the "full" position, the strength of which is dependent upon the amount of resistance inserted in the circuit by the tank unit.

With the float in the "empty" position, resistance is inserted in the variable field circuit; while with the float in the "full" position, most of the resistance is grounded out. The pointer is mounted on a magnetic vane which is attracted by the two lower magnetic poles and assumes a position between them depending upon the combined magnetic field. A counter weight is mounted on the pointer assembly to bring the reading back to "empty" position whenever the ignition is turned off.

If the gage does not give an accurate indication of the amount of fuel in the tank, check to locate the trouble as follows:

Disconnect the lead from the "GA" terminal on back of the dash unit. Turn on the ignition and the pointer should stay against the left stop pin. Ground the "GA" terminal and the pointer should move to the right stop pin. Check the

(Continued on page 86)



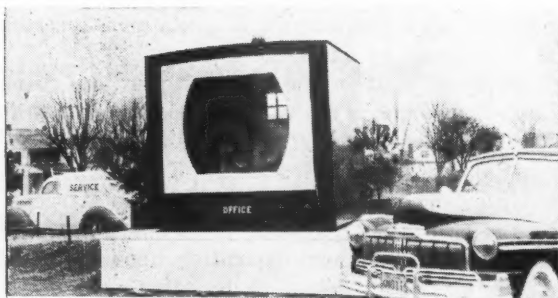
# Merchandising

Merchandising moves goods towards people . . . Advertising moves

## 1 Out of 4 Need Shock Absorbers . . . .



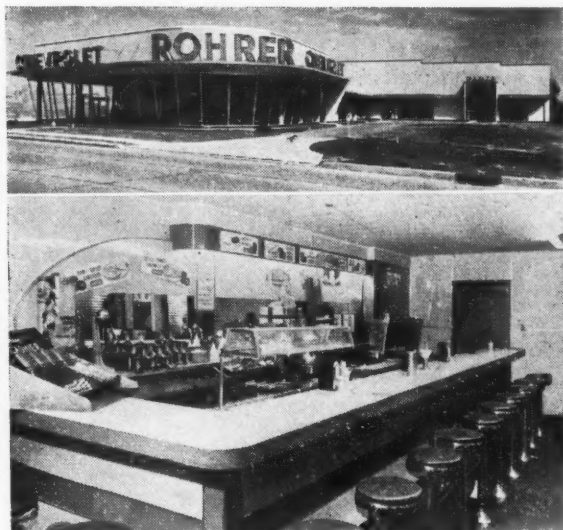
It pays to look . . .



Above: When Jim Myers of Bareville, Pa., decided to open a Used Car Lot recently, he hunted for the "something different" angle to catch attention of passing motorists. Result is this replica of a table-model television set which Jim uses as his office. One of the two service trucks—another extra feature—is shown in background.

Right: Service customers at Rohrer Chevrolet, Camden, N. J., can enjoy a hamburger and coffee while waiting for repairs to be made. This snack bar is located right on the shop floor, and has been a convenience for both customer and employee.

To prove that the old "seek and ye shall find" proverb applies to automotive service as in so many other phases of life, Motor Age editors conducted an editorial investigation in two service shops. We were seeking worn or leaking shock absorbers—and we found 'em. Neither of these shops knew that the other was doing the same thing at the same time. However, in the final results they came out with very similar figures. One shop checked seventy cars with direct acting shock absorbers and found eighteen with at least one shock needing replacement. The other shop examined sixty-nine cars and found fifteen needing at least one new shock. The first shop owner decided to do a little selling, since he already had a line of shock absorbers in stock. He sold eight complete sets out of eighteen prospects. The second shop had no shocks in stock, but three weeks after completing the check they had taken on a line and are now doing a good business.



# and Promotion

people towards goods . . . When forces meet, a sale is made



The Fall sales season is here. The shop that is ready with the right re-sale items, and is prepared to sell winter service, is the shop that will get the business. Here is a list to check with parts and service salesmen:

## Resale Items

Chains  
Anti-Freeze  
Gas line anti-freeze  
Snow tires  
Batteries  
Wipers  
Windshield Washer Anti-Freeze  
Heaters  
Cooling System Cleaner  
Cooling System Sealer  
Radiator Hose and Clamps  
Polish and Wax  
Chrome Protector

## Winter Services

Cooling System Flush  
Winter Change-over  
Winter Tune-Up  
Chassis Lubrication  
Voltage Regulator Test  
Battery Test  
Brake Service  
Clutch Adjustment  
Universal Joint Lubrication  
Generator and Starter Test  
Heater Test  
Appearance Service  
Windshield Wiper Service

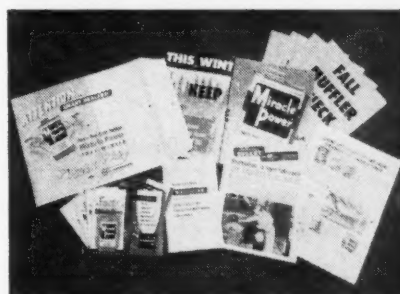


## Christmas is Coming . . . .

The same folks that come into your shop for repair work are beginning to wonder "What are we going to get Dad for Christmas?" Dad is scratching his head about Uncle Ben's present, and so it goes. Maybe you have the answer right in your accessory show case. Heaters, seat covers, cigar lighters and many other items make wonderful gifts. Now's the time to advertise them, display them and to make it known to your customers that you offer another good place for them to do their Christmas shopping.



To remind motorists that a cold season will soon be here, "Johnny Plug-Chek" has donned his winter garb in a full color promotion kit prepared by the Electric Auto-Lite Company. This kit promotes all types of winterizing service including a spark plug check-up.



The Miracle Power Division of the AP Parts Corp. is delivering its "Pusher-Pak" for Fall and Winter. It contains direct-mail envelope stuffers, compression test folders, reprints of magazine articles and a reproduction of a full page ad concerning their product. Window Streamers display the theme: "This Winter Keep Springtime in Your Engine."

Anti-Freeze Week (Oct. 6-13) has past, and now the real selling season has begun. The pre-season campaign was sponsored by the du Pont Company, makers of Zerone and Zerex, and featured Miss Anti-Freeze.





A clean, white service desk is a welcome sight to the ladies, who all too often connect repair shops with grease and grime.

by Arthur H. Nellen, Jr., Service Editor

**F**URNITURE in a shop, as well as in a home, can be the basis of an effective but inexpensive modernization program. We seldom think of the term "furniture" in connection with automotive service but is one of the most important assets of the repair shop or dealer service department.

Any shop, no matter how large or small, can modernize with the service merchandiser and the mechanic's benches which are now available. They are attractive, functional, and lend themselves to blending with other modern equipment which might be installed. This shop equipment is available in a variety of styles and models, ranging from a small rolling tool dolly to an impressive service manager's desk.

The latter unit is extremely valuable in establishing a customer-reception area, which is a "must" for any shop. As a car owner rolls onto the service floor from the street, his first thought is "where do I go now?" A clean white service manager's desk is an eye-catcher and leaves no doubt in the customer's mind as where to go for attention. Some service manager's desks have clever arrangements for displaying parts and accessories. For establishments with one or more service salesmen,

# Modernization

An interior can be "spruced up" and made



A desk for each service salesman promotes efficiency, makes an impressive looking reception area to greet the customer.

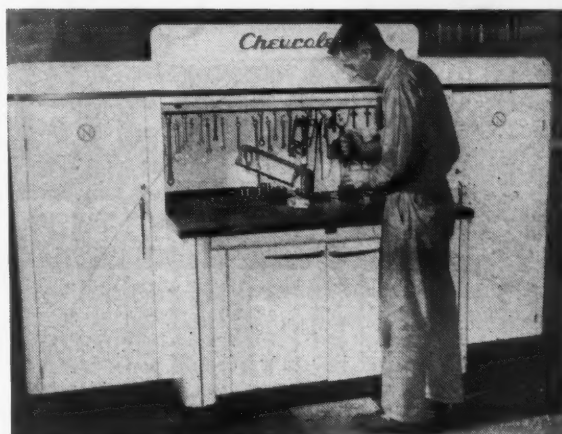
special desks are available for their use. Each of these units is designed first to help sell service through appeal, and second for the convenience of the service manager, service salesman or shop foreman.

But that's only part of the story. If the shop is equipped with modern "furniture" throughout, the customer can look beyond the reception area and see gleaming white benches with cabinets, shelves, drawers, built-in parts, washers, electrical outlets, lights, and so forth. Each specialist is identified by the department name, and in some cases the mechanic's name is mounted in an illuminated panel. Even the pol-



# For Any Shop

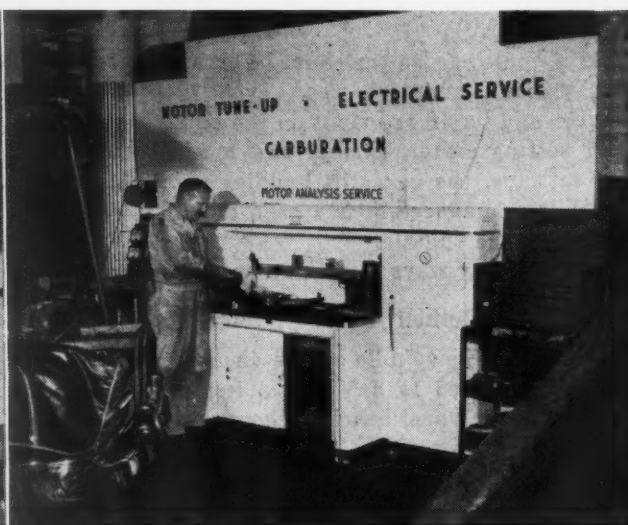
more workable with modern shop furniture



Convenience is the important feature of the workbenches, from the mechanics' standpoint. Plenty of working area and storage space.



Lined up on a shop wall, mechanics' benches not only look good, but are helpful in keeping the entire interior neat.



With a lettered panel built on to a specialist's workbench and cabinet combination, the unit becomes a salespiece.

isher has his own rolling cabinet which serves as a storage place for polish, rags and so forth.

Almost every shop has its own particular "eyesore"—a cluttered wall, a pile of junk which has accumulated or some other part of the building which detracts from the looks of the rest of the interior. Here's where this shop furniture can be used very effectively. The area is cleaned up and painted, and then the merchandisers or work benches placed in position. The result is a renovated section of the shop, which suddenly becomes both useful and pleasing to the eye. The cabinet doors permit storage without disarray, and the white enamel finish

permits easy cleaning, so that there is no reason for the area to become an eyesore again. For the mechanic, everything is convenient due to the functional design of the workbenches.

The improved working conditions throughout the shop help to create an air of efficiency about the shop, a factor which is valuable in creating customer confidence. More satisfied customers plus efficient personnel adds up to more work turned out, and increased profits. Consequently, the modernization program can pay its own way in time.

In a competitive market, modernization is imperative for a shop to survive.



*Chilton's* MOTOR AGE

# Flat Rate and Service Manual

## How to Check Bent Spindles

by Andy Grey, Editor, Chilton's Motor Age Flat Rate and Service Manual

**A**BENT spindle can be the cause of erratic steering, wander, and tire wear, even if caster, camber and toe-in are right on the ball.

If, after setting caster, camber and toe-in to the preferred settings, the car still handles erratically or tire wear is pronounced, it is a good idea to check the condition of the spindle.

There are two easy ways to check a spindle:

### The Dial Indicator Method

The condition of the spindle can be checked with a dial indicator attached to a V block. Remove road wheel and the inner wheel bearing, thoroughly clean up the spindle.

Mount the dial indicator on the V block and place the V block on the spindle outer bearing surface. Adjust the dial indicator so that its finger contacts the inner bearing surface of the spindle.

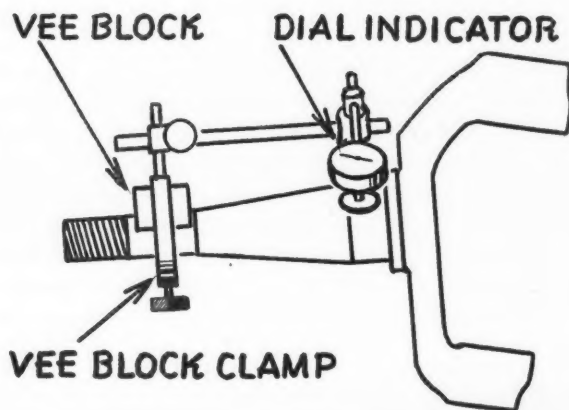
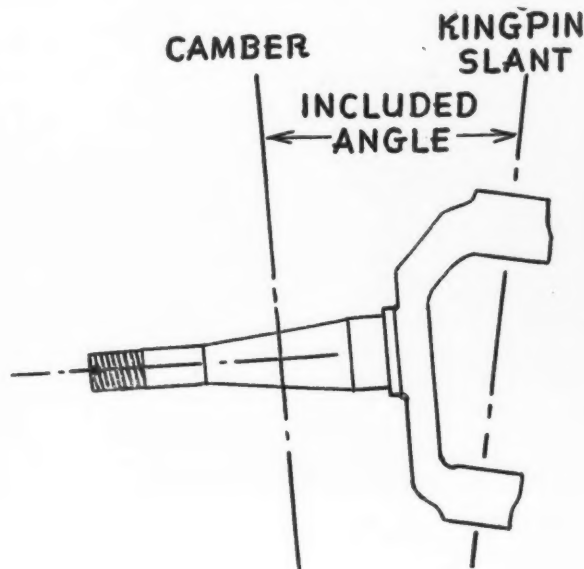
Now rotate the V block around the spindle so that the indicator will show concentricity between the inner and outer bearing. Maximum reading on the dial indicator should not exceed .002 in.

Where a spindle is bent, oddly enough, it will generally be found to be bent downward, not upward.

### The Aligning Gage Method

To check for a bent spindle on a front end aligning machine, check camber and also king-pin slant. The reading for camber should be added to the reading for king-pin slant and the total noted. Do this for both sides. If the total for both sides is exactly the same, it may be presumed that both of the spindles are in good condition since it is unlikely they will both be bent exactly the same amount.

However, if one of the totals differs from the other it means that one of the spindles is bent. Ordinarily, it may be presumed that the bent spindle is the one having the greater total of the two since in most cases spindles bend downward.

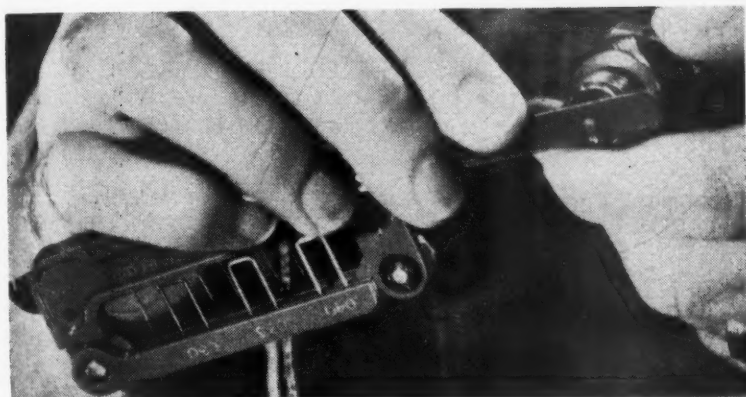




**NEW**

# PRODUCTS SHOW WINDOW

FOR FURTHER INFORMATION USE  
POSTCARD FACING OTHER PAGE

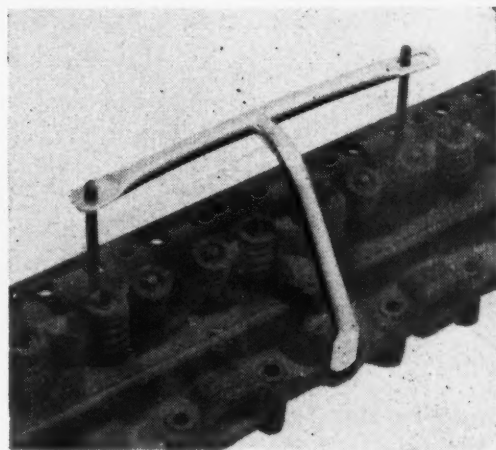
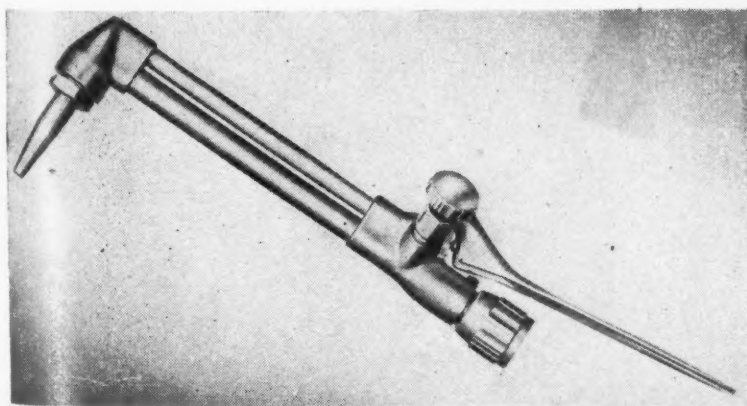


## ◀413. Spark Plug Tool

**Champion Spark Plug Company:** A multi-purpose tool for spark plug servicing is being made. The device contains stainless steel wire gap gages, two gap adjusting slots for electrode bending, a double cut precision file for refacing the sparking areas, and four gaskets "reject" slots for determining the utility of used spark plug gaskets. The tool has a plastic body design to protect the various components from damage.

## ▼412. Cutting Attachment

**Linde Air Products Company:** A new cutting attachment that cuts steel and other metal up to eight inches thick, has been announced. It is intended for intermittent cutting on general, run-of-shop jobs. Twenty-three oxyacetylene cutting nozzles are available for all types of cutting, and regardless of nozzle used, all pre-heat flames down to the smallest, retain their adjustment and can be used without popping or back-firing, the manufacturer states.



## ▲414. Head Lifting Tool

**National Machine & Tool Co.:** A new head lifting tool for Chevrolet and other valve-in-head engines has been announced. The tool permits one man to handle the head since the head is always parallel to the block and there is no dan-



ger of damaging gaskets. It is made of light weight tubular steel with welded joints, and takes a positive grip on the head. Yet it is said to be instantly attached or removed.

#### 415. Chamois Substitute

**Miracloth Corporation:** A double duty latex treated chamois replacement called "Wet-Pak mirasham," which washes like a sponge, wipes like a chamois, and needs no "break-in" rinsing, is now on the market. The lint-free non-woven fabric is moistened at the factory and roll-packed while still in an airtight transparent plastic bag. When the bag is opened, the fabric is soft and pliable. It is said to get softer with each use and never shrinks or stiffens, even when washed in boiling water and dried over hot pipes. It is not affected by harsh soaps, detergents, solvents, grease, oil alcohol or ammonia.

#### 416. Single Post Hoist

**Globe Hoist Company:** Manufacture of the single post "Frame-Kontakt" type as part of its regular line has been announced by this firm. This hoist is said to offer features of neater installation, greater accessibility to underside area of the car and to wheels, and relaxed suspensions permitting lubricant to penetrate to important wear points. Lifting capacity is 8,000 pounds and lifting stroke is 70½ inches.



#### ▲417. Rubber Exhaust Hose

**Continental Rubber Works:** A new synthetic rubber hose for carrying off exhaust fumes has been developed. One of the chief advantages claimed for the hose is its crush-proof construction. No matter how often it is run over, the hose snaps back into shape automatically. It cannot mar or scratch finishes, important in overhead systems. Because of its neoprene construction, the hose is unaffected by oil, gasoline, and grease and is highly resistant to exhaust heat.

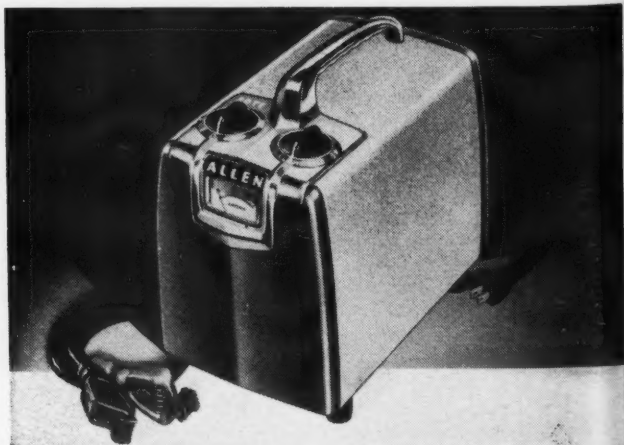


#### ▲418. Under-Car Mat

**D. W. Moor Company:** The "Auto-Dydee" is a crease resistant neoprene mat for use under cars in showrooms, on shop floors and other places where oil and grease create problems. It has a raised bead around the edges to hold any drippings on the mat while cross ribs keep oil from running end-to-end on sloping floors. It measures 38 x 60 inches.

#### ▼419. Battery Chargers

**Allen Electric & Equipment Co.:** A complete new line of eight battery chargers under the name of "Dyna-Chargers" has been announced. The line includes two models, designed to handle both 12 and 6 volt batteries. There is a three wheel mounted, 100 ampere fast-slow charger, three portable 75 ampere fast-slow chargers, a wall type slow charger and a 4 ampere overnight charger for home use. The latter is a resale item. A new method of battery testing, "Dyna-Meter" is an integral part of the deluxe models.



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## 420. Fuel Conditioner

Gulf Oil Corp.: "All year automobile fuel system conditioner," described by its maker as a highly versatile aid in the elimination of fuel system difficulties in the average motor car, has been developed to alleviate many of the troubles encountered in the fuel system. It contains solvent, to remove gum in the carburetor and fuel system, and it protects against further gum formation.

It is also said to free sluggish valves and aid in upper cylinder lubrication. It absorbs moisture, which condenses in the fuel system, thus providing an anti-freeze

action. A corrosion inhibitor protects carburetor parts from corrosion due to moisture.

## 421. Screwdriver Line

Herbrand Tools: A new design of screwdrivers, with the "Fist-Fit" handle, has been announced. It is said to make it easy to loosen tight or frozen screws. Blades are only 2½ inches long, enough to enable the mechanic to use them in very close quarters. The screwdrivers have a "T" shape average-ment so that a great deal of leverage and pressure can be put on them. They are available in two sizes for Phillips screws and two sizes for flat screws.

## 422. Paint Reducer

The Arco Company: A synthetic enamel reducer and accelerator which is said to virtually eliminate "orange peel" and the stippling effect of overspray, has been announced. Named Super Adflo Reducer and Accelerator, the product, which is characterized by slower initial drive and conventional reducers, is said to substantially increase and prolong the flow of synthetic enamel. This added flow and slightly longer flash-off time gives the finish coat of enamel time to settle to a mirror-like level before the volatile elements of the reduced can evap-

# More Info

on new products in this issue which are of special interest to you can be obtained by using the free post card at the right. Fill in your name, address and other information and circle the numbers of the new products which interest you. Tear out the card and drop it in the mail.

# Here's How

You can pass your thoughts on Motor Age to its editors. Just write down the titles of the features you like best in this issue in the order of your preference. Then, in the next spaces, write in your ideas on making Motor Age more useful to you.

Frank P. Tighe, EDITOR MOTOR AGE  
Chestnut & 56th Sts., Philadelphia 39, Pa.

10/52

Please send me further information on the New Products, the code number of which I have circled below.

- |                          |                       |                        |
|--------------------------|-----------------------|------------------------|
| 412. Cutting Attachment  | 420. Fuel Conditioner | 428. Test Stand        |
| 413. Spark Plug Tool     | 421. Screwdriver Line | 429. Radiator Tank     |
| 414. Head Lifting Tool   | 422. Paint Reducer    | 430. Lane Marker       |
| 415. Chamois Substitute  | 423. New Battery Line | 431. Hex Socket Screws |
| 416. Single Post Hoist   | 424. Ignition         | 432. Screwdriver       |
| 417. Rubber Exhaust Hose | Merchandise           | 433. Hose Dispenser    |
| 418. Under Car Mat       | 425. Safety Lock      | 434. Touch-up Gun      |
| 419. Battery Chargers    | 426. Pipe Hanger      |                        |
|                          | 427. Safety Catalog   |                        |

Your Name ..... Your Title .....

Your Company .....

Jobber ..... Independent ..... Dealer .....

Address .....  
(Street & No.) (City) (Zone) (State)

Frank P. Tighe, EDITOR MOTOR AGE  
Chestnut & 56th Sts., Philadelphia 39, Pa.

10/52

We liked the following features in this issue of Motor Age:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Here's how Motor Age can be more helpful to us:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Your Name ..... Your Title .....

Your Company .....

Jobber ..... Independent ..... Dealer .....

Address .....  
(Street & No.) (City) (Zone) (State)

## New Products . . . . . Continued from Page 53

orate. An added advantage, the company claims, is that flying spray dust readily "melts in" when it lands on already finished surfaces. This is because the spray particles cannot dry before they land, so the tendency is to level out quickly and sink into the surface.

### 423. New Battery Line

Lee Rubber & Tire Company:  
A new line of automobile batteries

features the Lee Double-Life Battery which is claimed to combine all the advances developed by the industry in the past ten years. It is a 17-plate, 115-ampere battery, which is said to need water only three times a year in normal car use. The plates in this battery are Permacast Grids coated with a newly designed active lead oxide material. The separators have a separate panel of highly porous, non-organic material to which

spun glass mats are bonded on either side. The separators permit a free flow of electrolyte and provide a tight, three-ply insulation between the positive and negative plates, thus preventing shedding of the oxide from the plates. Transparent, plastic, Tel-Vue allow quick checking of the water. If water is needed, the words "Add Water" show at the bottom of the plug.

### 424. Merchandiser

The Holley Carburetor Company: The Holley Ignition Merchandiser provides coverage for Ford vehicles as far back as 1941 and late model Mercurys and Lincolns. The stock consists of caps, rotors, condensers, coils, diaphragms, and contact sets. The package is shipped complete with ignition stock, display rack, price list, condensed salesman's catalog and authorized dealer decal.

### 425. Safety Lock

The Sleetex Company, Inc.: A new, patented safety lock for all car doors is being marketed under the name of Twistlok. The manufacturer states that this is the only lock that can be installed on the rain gutter allowing protection at every door while the car is in motion or parked. Attachment is made with a screwdriver without drilling holes. The device unlocks only from the outside and has the advantage of keeping children safe in the car. It is available on merchandiser displays, holding twelve units or on individual display holding one unit. Dealer display assortments are also available, packaged in sets of four for sedans and pairs for coupes.

### 426. Pipe Hanger

AP Parts Corporation: The PR3 pipe hanger contains a spring clamp which holds a single tail pipe firmly, yet is said to be easy to disengage. One or a series of these hangers can be hung on nails in the wall at a handy spot for compact storage as well as neat display. Press the sides of the clamp and it loosens, allowing the dealer to remove the pipe easily.

(Continued on page 102)

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### BUSINESS REPLY CARD

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# Hot Tips on Hot Rods

**Sports Cars  
Racing Cars**

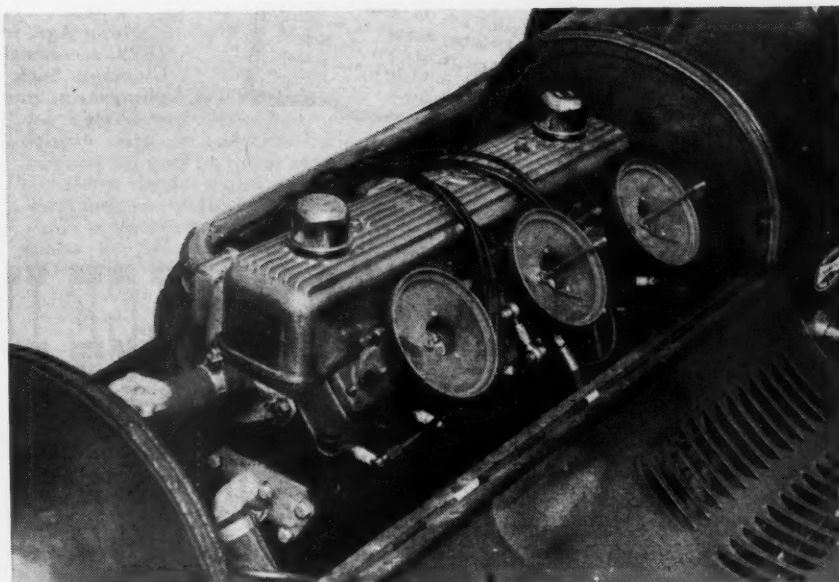
## Increased RPMs From Souping Up the Ford V-8

**T**HE first step in increasing engine rpm on Ford V-8s is to remove the heads and valves. Grind all the valve seats to a 30 degree angle instead of 45, which is standard. The 30 degree seat will give better fuel induction and also then grind the valve face to the same 30 degree angle. If the valve faces are worn, new valves should be used. Smooth and clean the valve ports. This is a must for top engine performance.

Valve spring tension should be checked on a reliable tester and if possible, obtain slightly heavier ones or add a spacer washer under the original to increase the tension.

Channeling the blocks will assure better gas flow but in doing so it decreases the compression ratio. Channeling is done by removing the metal on top of the block between the cylinder and the valve ports. This can be done with a grinder.

To increase the compression either obtain special compression heads or have the present ones planed or milled. Usually .040 inch can be safely removed. If more is desired, then you must determine the clearance between the inside top of the combustion chamber and the valve heads. This can be done by using putty or plaster of paris.



GMC Engine with Wayne head. Note the three carburetor mountings.

First put the cylinder in firing position (piston on top with valves closed). Remove the spark plug and add the putty compound. After the compound has been set, then remove the head and figure out the exact clearance.

Good carburetion is a must. Make sure the fuel pump is in good shape and the flexible line. Clean the carburetor and set the float level to the manufacturer's specifications. Usually a richer jet will improve the performance but it pays to try the original first, then experiment with various jets.

The air cleaner should be washed

and oiled to provide adequate draw. The muffler should be examined closely and the exhaust and tail pipes. Any kinks in the pipes or obstruction in the muffler will set up back pressure.

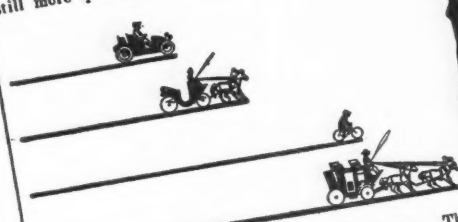
## Install V-8 Engine in A 1932 Model B Ford

*I have a real problem. I would like to install a V-8 Ford motor in a 1932 B Ford. Also I would like to use a column shift. My first problem is how to mount the rear of the transmission in my chassis. I*

*(Continued on page 150)*

Here's an old timer (right) an advertisement for Exide Batteries which appeared in the July 3, 1902, issue of Motor Age. Clipping below indicates that our early predecessors were safety conscious, back in Aug. 14, 1902.

**Automobile's Wide Margin of Safety.**  
Stopping tests, of which there have been a number, show that an automobile may be brought to a standstill more quickly than any other vehicle. The relative distances are illustrated by the diagram. The automobile, traveling at 22 miles, stopped in 31 feet; the trotting team, at 21½ miles, in 43 feet; the bicycle, at 20 miles, back-pedaling only, in 63 feet, and a four-horse tally-ho, at 17½ miles, in 79 feet.



ADVERTISEMENTS 29

**WHEN ORDERING AN AUTOMOBILE SPECIFY THE "Exide" BATTERY**

NEW YORK, 141 West 12th Street. PHILADELPHIA, 20 N. Broad Street. BUFFALO, 200 Pearl Street. **EXIDE BATTERY DEPOTS** For Furnishing, Charging and Caring for Exide Batteries. CHICAGO, 281 Michigan Boulevard. ST. LOUIS, 181 Olive Street. OTHER STATIONS WILL BE ASSOCIATED LATER.

**THE ELECTRIC STORAGE BATTERY CO. PHILADELPHIA.**

PHILADELPHIA, Allegheny Ave. & 18th St. CLEVELAND, New England Bldg. NEW YORK, 100 Broadway. ST. LOUIS, Walbright Bldg. BOSTON, 50 State St. SAN FRANCISCO, Nevada Block. CHICAGO, Marquette Bldg. DETROIT, Michigan Electric Co. BALTIMORE, Continental Trust Bldg. HAVANA, CUBA, G. F. Greenwood, Mgr., 34 Expedro St.

**Why is it?**

**GASMOBILES.**  
American Built. Immediate Delivery.

Motor Age, which was first published in September, 1899, records the history of the automobile industry. Glancing back through its pages, here are a few glimpses of our early times.

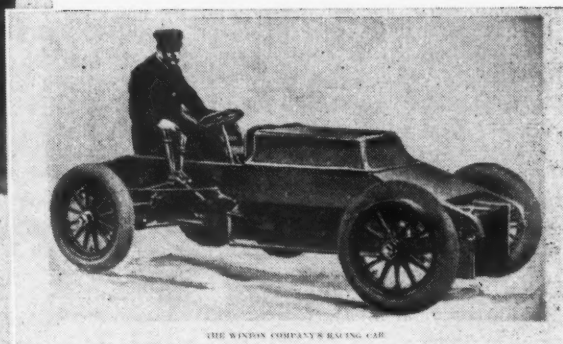
# FROM AN EARLY PAGE IN MOTOR AGE



LESLIE WELLS IN THE PRESCOTT WHICH WON GOLD MEDAL AND WHICH WON CERTIFICATE AFTER LONG ISLAND AND A C & 100-MILE ENDURANCE TESTS.

A two-passenger Prescott (left), 4½ horsepower steamer, weighing 1,350 pounds. Gold medal winner in the Long Island endurance run, 1902.

The Winton racer (below), called the Bullet, was proclaimed to be the forerunner of the Winton for 1903. A four-cylinder job.



THE WINTON COMPANY'S RACING CAR





# BODY SHOP TIPS

## How to Glue Back Door Rubbers in Tight Places

We have found a very easy way to glue back the weatherstripping on the late model cars. As generally is the rule, they come loose on the inside of the door next to the body, making it difficult to get to with weatherstripping cement.

By installing a piece of windshield wiper hose over the top of a tube of weatherstripping cement, they are easily glued back without getting the cement all over the weatherstrip. *Richard Batla, Schroeder Motors, Taylor, Texas.*

## BODY SHOP TIPS are worth

# \$7.50

If you've developed an idea that has helped you to do body and fender work or painting better or faster, it may be worth money. Jot down the idea and, if necessary, make a rough sketch. Sometimes a snapshot will help. Just make the description of your BODY SHOP TIP clear, and if it is used, you'll receive a check for \$7.50.

fender can be worked on in standing position. *Mike DiAmbrosi, Raymond P. Scott, Lancaster Avenue, Ardmore, Pa.*

## Save Feather-Edging Discs With Masking Tape

I find that running a strip of masking tape around the outside under edge of paper feather edging disc prevents it from tearing. *Walt's Body Shop, Lake Preston, South Dakota.*

## Storing Fender and Quarter Panel Moulding Strips

We were having an awful time keeping our moulding strips separated until we got two pieces of lawn fence 3-ft. x 6-ft. It had openings 3-in. x 6-in. between the strands. We made two wooden frames and attached the pieces of lawn fence and built them into our sheet metal department storage racks, one behind the other or parallel, and 2½ ft. apart. Over each opening we hang a parts tag with

wire containing the number and year of the car that the moulding fits. We only stock 3 or 4 of each number so the 3-in. x 6-in. opening takes care of our need satisfactorily. If you stock more of each number, a fence with larger openings, it will serve your purpose better. *Driver Sales & Service, Inc., G. W. Hicklin, 212 Main Street, Waynesboro, Va.*

## Making a Double-Duty Disc Sander

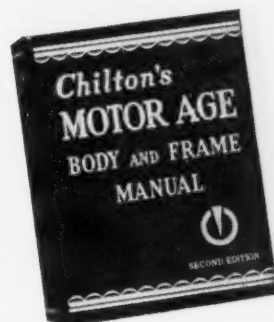
I have a ¼-inch drill which I use for feather-edging automobile paint. I find it a very good time and back saver, by first cutting a 6-inch disc out of 80 grit sand paper, with a 1½ inch hole in the center. The hole prevents the sand paper from tearing and wrinkling. Then cut a 50 grit disc, 3½ inch with a ½ inch hole in the center. Now I put the 50 over the 80 and I have a very good feather-edge and rough sander in one. *Ernest Warro, Dave's Auto Service, 4844 Broadview, Cleveland, Ohio.*

## Headlight Removal Aids On Fender Work

We have found that on a number of jobs where the straightening is on the inner part of the fender it is somewhat awkward to work from below. In order to be in a more comfortable position, and to see what we are doing, we usually remove the headlight unit and the



inner shell. This permits putting the hand up inside so that a dolly can be held comfortably and the



Other valuable information of the type presented each month in The BODY SHOP is available in Chilton's Motor Age Body and Frame Manual.

# Building the Jabro Sports Car



Three years, \$3,000 in materials and over \$10,000 worth of equipment were involved in the building of this sports car

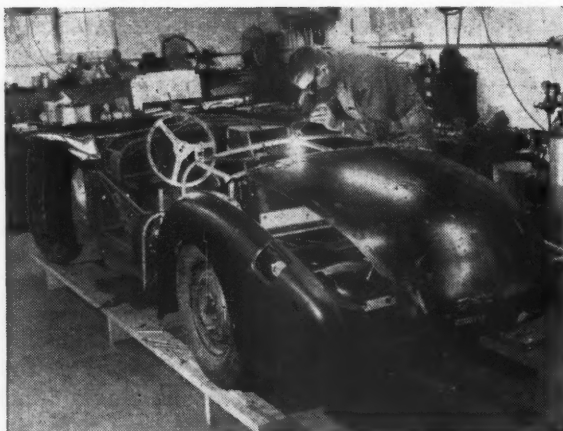


Fig. 1. With fenders and deck lid clamped in place, Broadwell constructs the body frame.

Fig. 2. Broadwell turned out the metal part of the steering wheel on a lathe. He finished the rim with twelve pieces of walnut.



ONCE upon a time a 1942 Studebaker Champion was junked after a wreck. A St. Louis business man, named James P. Broadwell, bought the wreckage (stripped of its body parts) and carried it into the basement of his house. Three and a half years later, the Jabro, the only sports-car of its kind in the world emerged. Broadwell worked during his spare time, chiefly on weekends, and spent three thousand dollars for material to produce his car. He estimates that he has about ten thousand dollars invested in tools.

Broadwell built up the Jabro from parts he tooled himself from raw materials, from specially made factory parts, from new and used

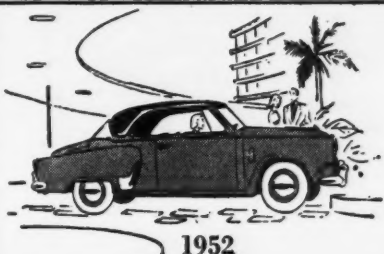
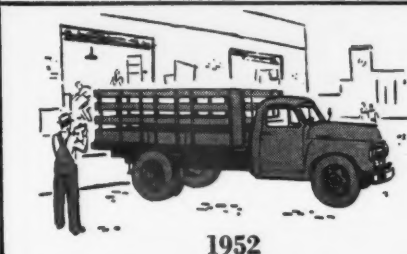
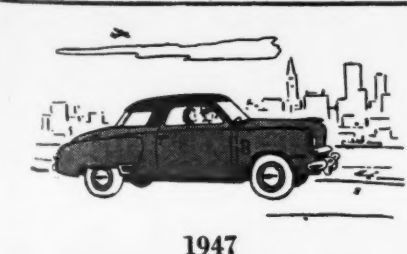
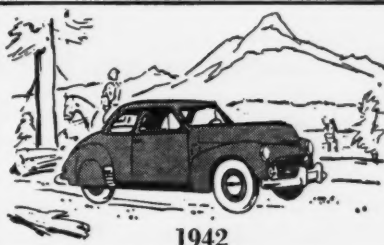
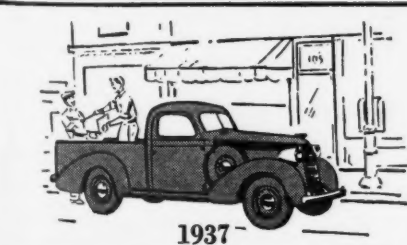
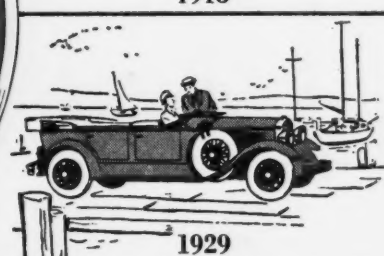
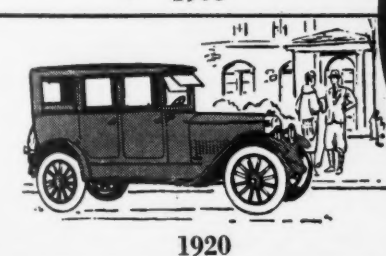
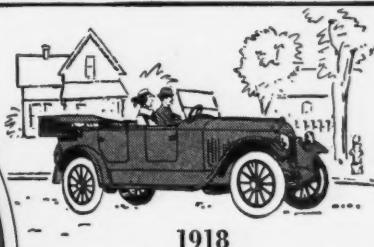
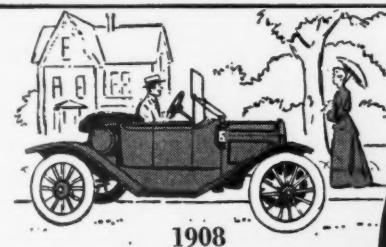
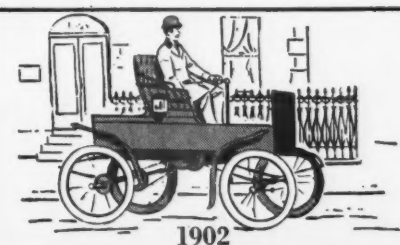
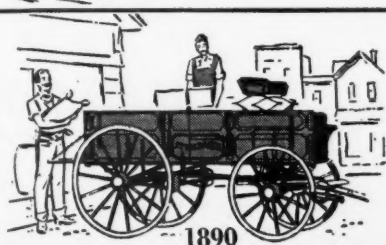
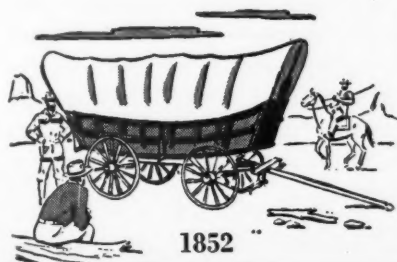
*(Continued on page 98)*

Fig. 3. Having completed his dash, Broadwell installs it during final wiring. Instrument panel included a tachometer.



# 1852 ★ *Studebaker* ★ 1952

The name with 100 years of fame  
on the roadways of the world







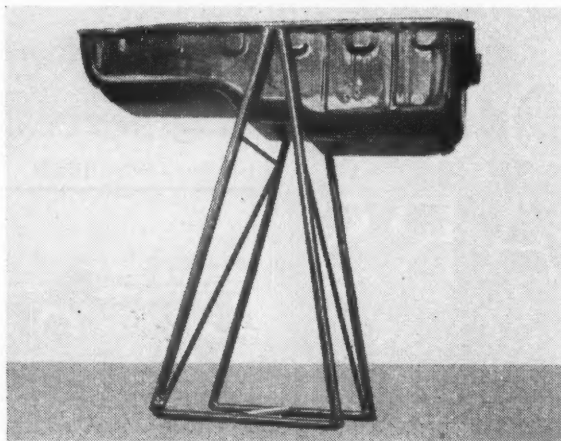
# Shop Kinks

If you've come upon an original idea for making a job easier, a special tool, short cut on a job or any trick of value to other readers, write it down and if necessary, make a rough sketch. Just make it clear. Send it to Motor Age. If we can use your Kink it may bring seven-fifty, possibly 25 dollars. All submissions become the property of Chilton Company. Because of the numbers received, no entries can be returned.

**For The Best Kink Published Each Month . . . \$25**

**For All Kinks Published Each Month . . . \$7.50**

## Best Kink of the Month



### Stand Supports Engine on Chevrolets

We have developed a stand for use when there is a necessity for removing the transmission or the clutch on a Chevrolet car. It can be used on any Chevrolet car and something of this type is necessary to use on the 1952 models. This stand rests on the lower side of the block and there is no danger of crushing or denting the oil pan while the work is in progress. We have several of these and have found them very practical. One can be made from old tie rods of the right length welded together. *Carl Thoresen, Ser. Mgr., Rapids Chevrolet Company, 601 First Avenue, Southeast, Cedar Rapids, Iowa.*

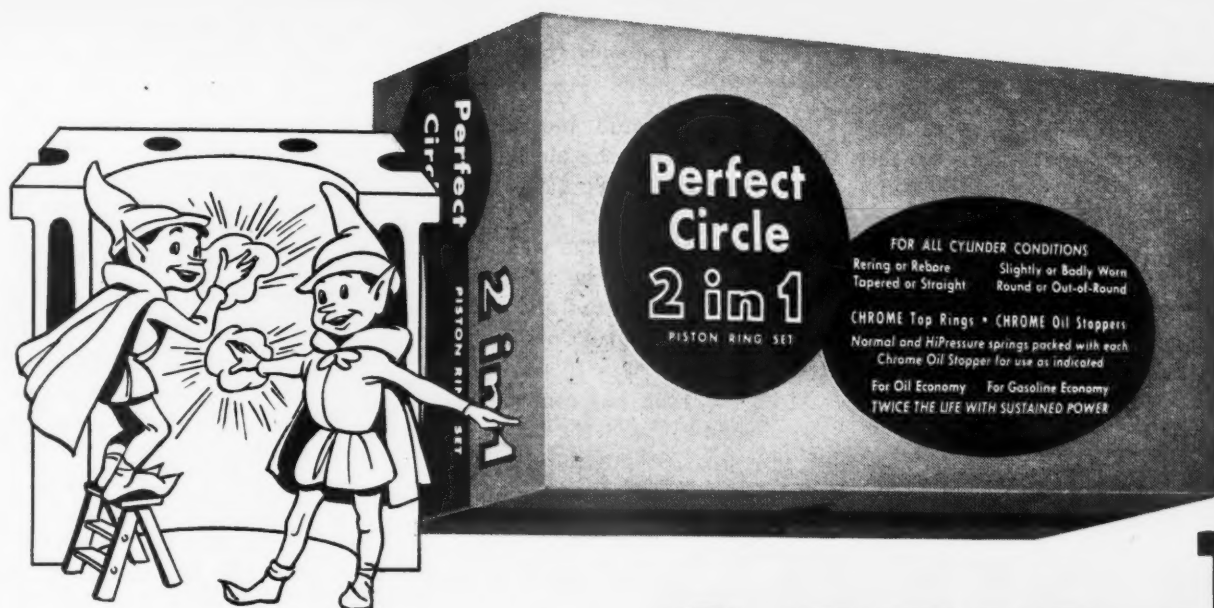
### Use a Clothes Pin in Replacing Valve Lifter Body

Recently I had to replace a broken valve lifter body in a 1951 Lincoln which required removing the motor and the Hydra-Matic transmission. I saved myself considerable time and labor by getting spring clothes pins to hold up the valve bodies while removing the camshaft. The bad part is putting the camshaft back into the idler ring that rolls on the cam operating the fuel pump. It drops down in the gear case. I used a small magnet that would go through the push rod hole to lift up the ring making it quite easy to push the camshaft into position. *Gordon North, Highland Park Lincoln-Mercury, 1890 North First St., Highland Park, Ill.*

### Sure-fire Method for Silencing Chev. Tappets

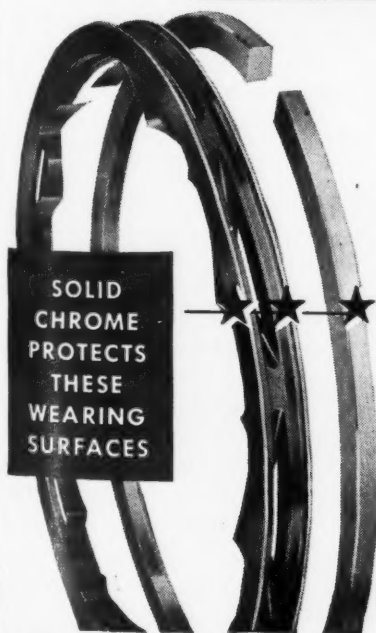
Quite a few years ago I had trouble silencing a set of Chevrolet tappets. I ground the rocker arm as usual and faced the ends of the valves and rebushed the rocker arms and thinking I had a fair job I started up the engine, warmed it up and adjusted the valves. They wouldn't quiet down so finally I took the adjusting screw out and ground the ball end on them. I had

*(Continued on page 62)*



Cylinders should be **saved**

...not shaved



**Perfect Circle's 2-in-1 Chrome Piston Ring Set assures positive oil control... without shaving the cylinder walls on each stroke! Solid chrome plating, applied to BOTH top compression rings and oil ring rails gives the 2-in-1 Chrome Set more than twice the life of ordinary sets!**

**What's more, the 2-in-1 Chrome Set is actually two sets in one—because two expander springs are included with every Chrome Oil Stopper, giving mechanics a choice of spring pressures for every installation.**

**You'll get maximum performance, with sustained power, whether cylinders are tapered or straight, round or out-of-round! Perfect Circle Corporation, Hagerstown, Indiana.**

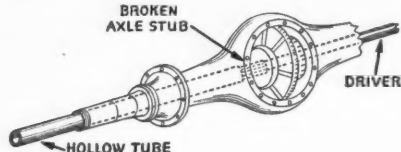
**Perfect Circle** PISTON RINGS  
*The Standard of Comparison*

## Shop Kinks . . . . . Continued from Page 60

then a flat surface of about  $\frac{1}{8}$  inch and I did the same thing with the push rods. After wearing for many thousands of miles these surfaces wore out the ball end and created a nib on the end therefore allowing the push rod to flutter so that you could not silence them even without any clearance. Ever since I've had no trouble with Chevy tappets. It will work on all of them except the late ones and the Powerglides. *George Leimantini, Mass Auto Service Station, Mass, Michigan.*

### Removing Axle Stubs On Full Floating Rears

I have a lot of trouble removing stubs on full floating axles, every time I try to knock out the small piece in the splines, it drops down in the housing, making it impossible to get out without removing the



differential from the housing. It is not possible to remove the cover and remove the piece because the housing doesn't leave room enough between the housing and the bearing caps. I took a piece of heavy tin, five feet long and four inches wide and made a tube which I inserted up to the broken piece. Then I removed the other axle and pushed the small broken piece into the tube with a long bar. *Harold Trautman, Lexington Motor Co., Inc., 103 West 8th Avenue, Lexington, No. Carolina.*

### Removing Broken Studs With a Welding Torch

I have a shop kink that may be helpful to the garage mechanics. If you have a broken stud that you would like to remove from a tapered hole, this is a quick and sure way of doing it.

Place a nut, the next size larger than the stud, over the top of the hole where the broken stud is. Use an arc welder and weld the broken stud to the nut, filling the nut with the weld. Hold the arc in the middle

of the broken stud and allow the metal to flow to the sides and fill up the hole. Do not move the arc around in the hole as you will fuse the other metal to the weld.

The heat from the arc will expand the broken stud and when it cools off it will shrink and be much looser than it was to begin with. After the weld has cooled, take a wrench and remove the broken stud by turning the nut like you would a cap screw.

We use this method wherever possible, except in small screws where there is not enough room to weld inside the nut. This method has proven to be about twice as fast as drilling the threads or even breaking a tap off in the hole. *R. L. McClure, 1012 24th Street, Bakersfield, Calif.*

### Tool for Shorting Out Chrysler V-8 Spark Plugs

Here is a time saver on DeSoto Firedome and Chrysler Firepower motors. It is quite difficult to short out or check to see which spark plug is missing due to the fact the spark plug sits down in a deep hole with a dry proof insulator over it.

I take a three inch piece of steel choke wire and sharpen one end so it can slide between the spark plug wire and the rubber cover on the distributor cap. Stick the other end into a 12 inch piece of high tension wire, to be used to short out the spark plug. To make the tool take the three inch piece of choke wire, sharpen one end and stick the other end into the high tension piece of wire. With this tool you can insert it along side of the spark plug wire at the distributor cap and short out only the plugs you desire. *Wesley Tenbrook, Tenbrook's Garage, U. S. Highway #6, North Glenwood, Calif.*

### Insulating Transmission Heat from Driver's Feet

We have had some complaints about excessive heat coming up through the floor over the Power Glide unit and causing the right foot to get very hot. I correct this

condition by placing a piece of corrugated cardboard from an accessory box under the floor mat, under the driver's foot. This has corrected the complaint. *Sam Bernstein, University Chev. Inc., 1605 Jerome Avenue, Bronx, New York.*

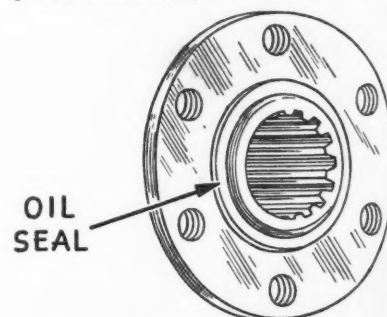
### Short Cut on Installing A Stop Light Switch

I find it a difficult job for one man to replace a mechanical stop light switch. I take two screws the same size and thread of the mounting screws, only an inch or so longer. Cut off the heads and screw them into the new switch. Depress the brake pedal. Put the switch into position and let the pedal back. This will hold the switch to the floorboard until you remove and replace with the original screws. *Gordon M. Arion, 6427 8th Street, N.W. Washington, D. C.*

### Removing Oil Seals at Rear of Dynaflo Unit

To remove the oil seals at the rear of a Dynaflo unit, without removing the torque ball, try this method.

Jack up the car and put stands under the frame. Remove the horseshoe on the brake line and release the emergency brake at the adjustment. Then remove the six  $\frac{3}{8}$  inch cap screws at the torque ball. Use a special jack on this to push the differential straight back until the shaft is free at the spline. Then jack the shaft and housing up out of the way.



Use a very sharp pointed pick end hammer. The seal is easy to remove by prying a little at a time with the pick. The new seal is then installed by tapping with a small hammer around the edges of the seal. The complete job will only take  $\frac{3}{4}$  of an hour. *Eldon McQueen, 2337 Big Bend Blvd., Maplewood, Missouri.*



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## Blue-Point WHEEL ALIGNMENT EQUIPMENT

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SIMPLE!

PORTABLE!

IN ANY SHOP... regardless of the equipment you may now have... this Snap-on Wheel Alignment outfit will prove faster and easier for your men to use! It's a dependable business-builder... in a few minutes you can show a customer exactly what's wrong... and you've got another profitable aligning job! The equipment is portable... use it anywhere! It's *accurate*... *none more so* when it comes to checking Caster—Camber—Toe-in—Toe-out-on turns. It's simple to use. It's fast. *And the price is good news in any shop's budget!*

Interested? Let your Snap-on Man demonstrate right in your shop, right *on the job*. If you'd like full information immediately, send for descriptive bulletin and the complete Snap-on catalog of more than 4,000 quality hand-and-bench tools.

### SNAP-ON TOOLS CORPORATION

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#### MAGNETIC CASTER-CAMBER GAUGE

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#### TURNTABLE SET

Precision built. Turning plates "free-floated" and mounted on ball bearings. Large pointers give accurate degree readings for caster and geometry.

#### TOE-IN TRAMMEL BAR

Seven-foot bar with traveling gauge gives you a fast method of checking toe-in. The traveling gauge is calibrated in inches for easy reading.



## Overhead Control . . . Continued from Page 38

burden on the work.

Every establishment has a basic work-day, usually eight hours, so there is a basic time factor. It is not hard to determine the average number of hours your shop works during a day, week, month or year. Overhead expense in dollars usually averages about the same from month to month if the books are

kept properly and the operator watches expenses closely. It will not equalize to the penny each month, but you can strike an average. This is where job cost accounting differs from financial accounting, which records income and outgo as sales are made and bills are paid. The financial accounts must balance to the penny every

month, otherwise, the bookwork is inaccurate.

Suppose your overhead expense is \$600 a month and you have two men each working eight hours a day for 25 working days in the month; then eight times 25 is 200 hours of labor per man each month and 400 hours for two men each month. Each labor hour, therefore, carries \$1.50 in overhead expense (400 divided into \$600). If two men put in 16 hours on a job, then \$24 worth of overhead expense is consumed during that time. Add \$24 to the cost of labor and materials to get the over-all cost for the work. You are paying out this amount on the job, so the customer should give it back to you, *plus a profit*. How much profit depends upon what you think is reasonable after including an adequate salary for your managerial services under overhead expense. If the customer does not pay enough to cover the over-all cost and the desired net profit, you lose on the job.

A lack of understanding about the overhead calculation is common among those doing service and repair work in this field. Too many operators think of labor cost as the wages paid their mechanics and overlook the fact that each mechanic carries his share of the overhead expense, because there is no way to get back this outlay except through the work done by these men. So, divide the monthly overhead expense in dollars by the number of labor hours worked to get the overhead chargeable to each job they do. Some accountants combine the hourly wage rate and hourly overhead rate, calling it the labor-hour cost. We suggest that you keep them separate.

The foregoing covers the fundamentals of costing jobs on a time basis. The formula is simple enough. You should have no trouble with it if your records are adequate and accurate. Bad bookwork, however, has ruined the labor hour costing method for more than one automotive businessman. The important thing is to make sure that you charge up all the expenses under overhead that should be charged to it, such as depreciation, owner's compensation, loss on inventory, loss on bad debts, and prorated annual expenses.

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**with HYATTS**

In replacing Hyatt Roller Bearings always remember this—the safest bearings to use are the same size and type of Hyatts that you take out.

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Hyatt Bearings Division, General Motors Corporation, Harrison, N. J. and Detroit, Mich.

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AVAILABLE EVERYWHERE THROUGH UNITED MOTORS DISTRIBUTORS



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In New York and other fashion centers, they keep dummies made to the exact measurements of Hollywood stars.

When a star wants a new gown, she calls her shop—and it's measured right on her model!

Then it's only a matter of hours before the gown is in Hollywood. For

these style centers ship their fashions the world's fastest way—via Air Express!

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Call your local agent of Air Express Division, Railway Express Agency.

1952 — OUR 25TH YEAR.



**AIR EXPRESS**  
**GETS THERE FIRST**



## Wheel Alignment . . . Continued from Page 41

of each other. If the caster and camber are not within these specified limits, proceed with the adjustments.

Caster and camber must be adjusted together to obtain the best average setting of each within the specified limits. If the camber is incorrect, and cannot be adjusted to proper limits, adjust the camber

as close to the specifications as possible and then check the king pin inclination before attempting any bending.

### Checking King Pin Inclination

With the camber known to be within specified limits, king pin inclination should check within specified limits. If camber is

correct and king pin inclination is not correct, a bent steering knuckle support is indicated. If the camber is incorrect beyond limits of adjustment and king pin inclination is correct or nearly so, then a bent steering knuckle is indicated. If the camber and king pin inclination are both incorrect by approximately the same amount, a bent upper or lower control arm is indicated. No adjustments are provided for king pin inclination as this factor depends upon the accuracy of the front suspension parts. Distorted or bent parts should be replaced with new ones.

### Adjusting Toe-In

Toe-in means that the front wheels are closer together fore and aft. Generally speaking, wheels are toed-in because they are cambered. When a car operates with zero camber, it will be found to operate with zero toe-in. As the required camber increases, so does the toe-in.

Turn in the steering wheel until the lower spoke is vertical with the front wheels and straight ahead in position. Measure the horizontal distance from the near edge of the front part of lower control arm shaft to the front edge of the brake backing plate on each side. Adjust tie-rods if necessary to make the measurements equal on both sides.

### Checking Turning Radius

With the front wheels resting on a full floating turn table, turn wheels to the right until the outside left wheel is set at 20 degrees. The inside wheel should then be set at the angle specified. Repeat this test by turning the front wheels to the left until the outside right wheel sets at 20 degrees. The inside left wheel should then be set at the angle specified.

Errors in steering geometry generally indicate bent steering arms but may also be caused by other incorrect front end factors. If the error is caused by a bent steering arm, it should be replaced. A replacement of such parts must be followed by complete front end check.



## \* QUIK SEATING!

If you think "Quik" Seating on the park bench gives you a thrill, you ought to try a set of the new Burd ND-800 Oil Rings in your next re-ring or re-build job. They are just what it takes to make you and your customers happy. *For there will be:*

NO SCUFFING—NO SCORING—NO BREAK-IN

Ask your Burd Jobber to show you the new *Graf-Flox* treated ND-800 Burd quik-acting oil ring. NEW design—new flexibility—new features thru-out assure maximum oil control with minimum cylinder wear even in badly worn engines.

**BURD PISTON RING COMPANY**

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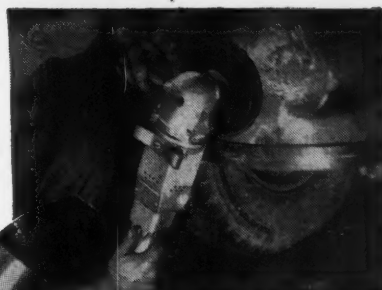
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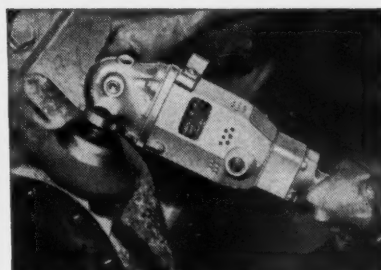
**To Speed SANDING—**

use a Black & Decker Sander with abrasive discs in a variety of grades.



**To Speed GRINDING—**

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use a Black & Decker Sander with a "Whirlwind" wire cup brush.

**L**ABOR CHARGES really pile up your costs on body jobs. So it's just plain good sense to make the most of your mechanics' time by equipping for better, faster, more profitable work with BLACK & DECKER Electric Sanders! These versatile tools give you correct power and speed for better work—easier handling to turn out more jobs per day—quality construction for longer life, less tool expense!

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... use them to save time, trouble and money!



## Pop O'Neill . . . . . Continued from Page 43

would not be able to help him. "All right," he said. "I'll go out to have a Pow-Wow."

He took the guns and gun belt in his hands and went to call on the Big Chief. "Hello Pete," he said as he approached him.

"Name Pinto," grunted the Chief sitting cross-legged on the ground.

"Excuse me, hello Pinto." Tommy

tried to put all his best personality in his voice. But Pinto easily held the Indian's glacial calm.

"Look Chief," said Tommy. "A peace offering."

Pinto's scowl really deepened. Tommy tried several more approaches but none of them could apparently penetrate Pete's epidermis.

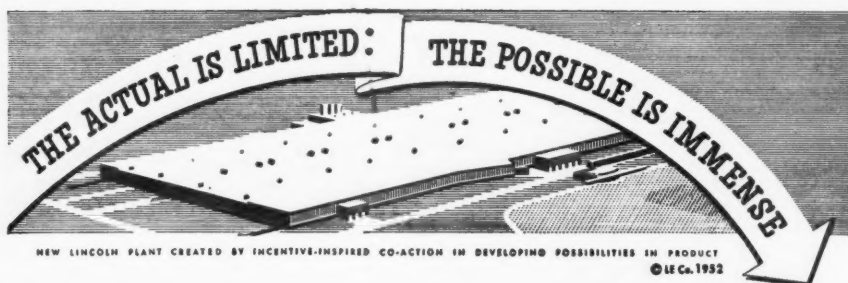
Suddenly he tried an entirely dif-

ferent track. "The high school's playing up at Green Bush, Saturday. Guess I'll have to go alone."

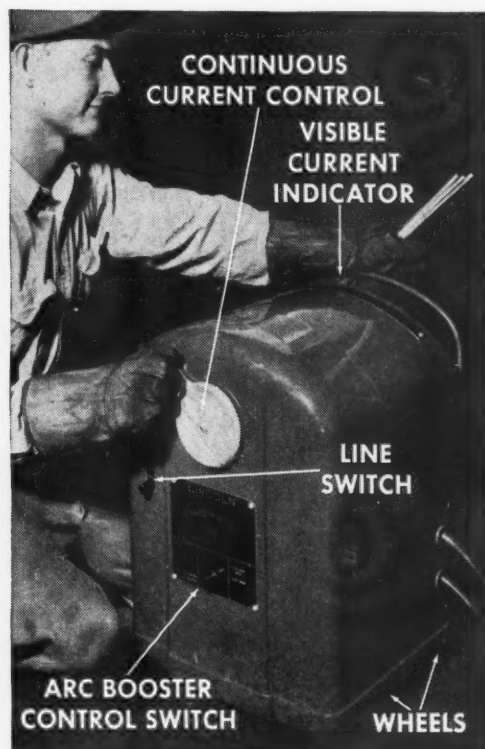
Caught off guard, the little blue eyes gave him a quick eager glance, then settled back into their dramatic scowl.

"Molly was going along with me," Tommy continued without looking at the seated figure. "But she couldn't at the last minute. I thought I'd find some boy who would like to go up there. Know of anyone?"

Clearly the Chief's canoe was about to sink. But Tommy knew better than to push his advantage too hard. He waited for a full minute then said, "Oh well, I'd better be getting to work on that car. Can't wait here all day you know." He dropped the guns in the small boy's lap and strayed quickly over to the Parsons' car.



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Garage welders prefer "Fleetwelder's" easy welding. They like the way the arc starts automatically with "Arc-Booster". And they appreciate the range of amps they get with the turn of a dial. The welder is compact, portable and operates from single phase current.

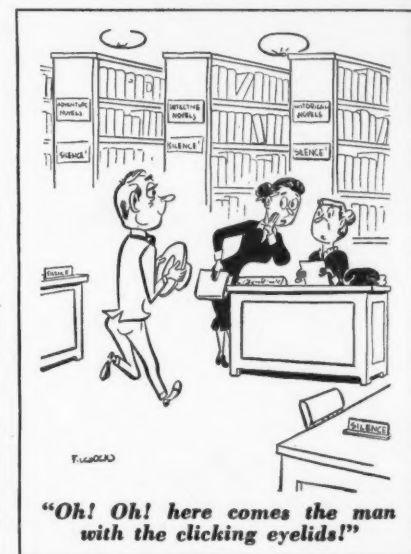
Compare this welder. None but the "Fleetwelder" will give you a steady arc on  $\frac{3}{64}$ " electrode for body repairs and also over 250 amps for heavy jobs—all at the lowest price on the market.

Write for free bulletin 1301 that gives complete data on the Fleetwelder 200 AC.

## THE LINCOLN ELECTRIC COMPANY

DEPT. 300 CLEVELAND 17, OHIO

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He slipped into the driver's seat and tentatively pushed the pedal with his right foot. "Hm, that's odd," he said to himself. "I thought she said the pedal would hit the floor. It's hard now."

He gave it a few hard pumps but it remained apparently hard. "Oh well, we'll take a look at it back at the shop." He started the engine.

Before he had time to throw the car into reverse, however, a small figure came racing across the yard.

"Oh, Tommy," Pinto yelled. "Oh Tommy! Wait a minute."

"What is it, Pete?" asked Tommy, smiling down at the small boy.

(Continued on page 70)

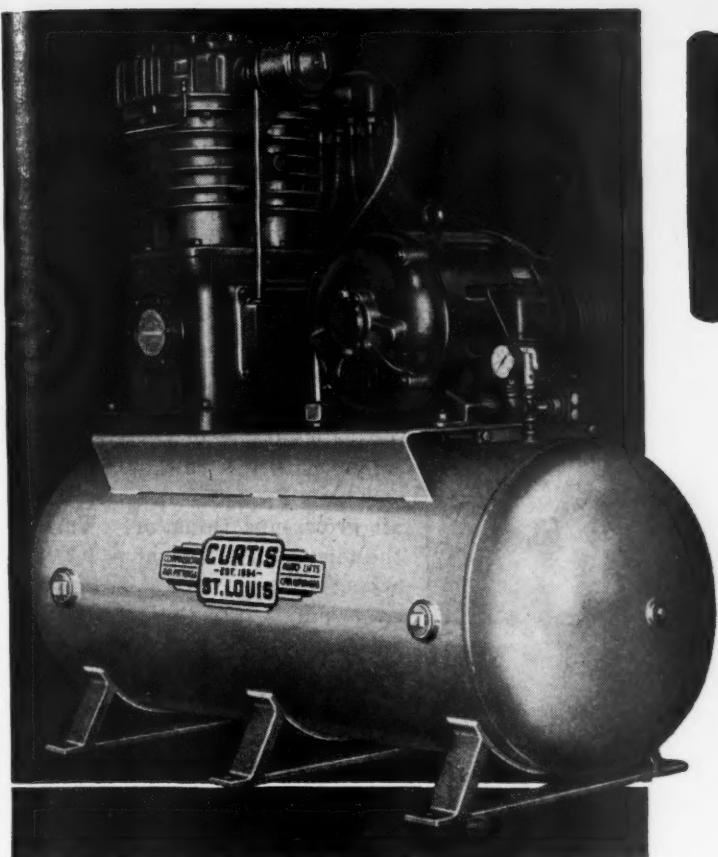


# It's New

MODEL V-9812

## Curtis AIR COMPRESSOR

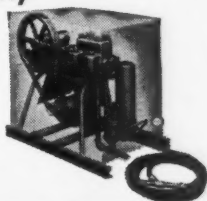
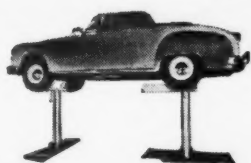
15 H.P.—TANK MOUNTED  
TWO-STAGE—AIR-COOLED



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2. Vibration Free — smooth operation
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**CURTIS FULL HYDRAULIC TWO-POST SHOP LIFT**—for Passenger Cars, Trucks and Busses

**HYDRAULIC CAR WASHER (300 Pounds Pressure)**  
For better and faster car washing; more cars are washed per day — more profits for you.

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Street.....

City..... Zone..... State.....

"If you happen not to find anyone to use that other ticket, I wouldn't want you to be all alone."

"Well, I don't know," Tommy countered. "I could hardly take an Indian to a football game. Think of what people might say, going around with a be-feathered creature like that beside me."

"Well," said Pinto, taking off his

head-dress slowly. "I guess I could leave the head-dress home."

"Oh I don't know," said Tommy. "I should think you'd have to wear regular clothes like everyone else to a football game."

"I have some regular clothes," said Pete. "If my mother would let me put them on."

"I think she would," Tommy re-

plied gravely. "And one other thing, "Tommy pressed his advantage. His glance fell on the two shining pistols in the boy's hand, which he had not dropped in his haste to get to the car. "Before I could take you to the football game I'd have to be sure that you'd written a thank you letter to your grandmother. Those pistols cost a lot of money you know."

"Oh sure," said the little fellow. "They're nice guns really. You know Tommy," he looked up like a small philosopher, "there's nothing wrong with this cowboy stuff. It's just that I get fed up with it. It's all grown-ups think of! Turn on the television . . . what is it? Hop-a-Long Cassidy! Turn on the radio . . . what is it? Gene Autry, Roy Rodgers! Pick up the funny papers . . . what is it? More cowboys! Whenever grown-ups buy you anything, what do they get . . . cowboy boots, cowboy shirts, cowboy hats. I want something else besides cowboys. I'm no grown-up."

"Is it any better to be interested in just Indians?" countered Tommy.

"I suppose not," said Pete. "But at least you can be a little bit the way you want to. I like to be a little bit cowboys, a little bit of Indians, a little bit of space patrol, and quite a bit football," he concluded.

"That's not a bad idea," Tommy said. "That's what I'd like to be. A little of everything. Well you go tell your Mom while I get this car fixed. Pop O'Neill's probably waiting for me and I have to get back

(Continued on page 80)

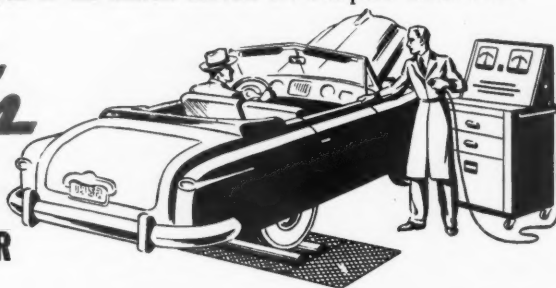
## NOW... greater SERVICE PROFITS are guaranteed..

### OPERATOR TRAINING DOES IT!



Your dynamometer operator can now become an expert . . . by attending the Clayton Dynamometer Operator Training School for one week. An intensive 5-day course covers every phase of dynamometer operation . . . trouble-shooting, tune-up, inspection and performance checking . . . guarantees profitable operation. A class starts the second Monday of each month at the Detroit school, located at 4620 Oakman Blvd., near Chicago Blvd. Another class starts the third Monday of each month at the Clayton factory in El Monte, Calif. Courses at both schools are identical . . . streamlined to teach proved dynamometer techniques selected from the best of hundreds of successful operations. Enroll your operator or service manager and insure greater service profits. Mail the coupon to the nearest address for complete information.

**Clayton**  
CHASSIS  
DYNAMOMETER



CLAYTON MANUFACTURING CO. (USE NEAREST ADDRESS) MA-10  
4620 Oakman Blvd., Detroit 4, Mich., or Box 530, El Monte, Calif.

Send complete information on Dynamometer Operator Course at school checked. Also send new book on dynamometer operation.

DETROIT SCHOOL ( ) EL MONTE SCHOOL ( )

NAME \_\_\_\_\_

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ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_



"Congratulations, Kid! The sports writers elected you number one on the hit parade!"



# Get Your Share of the Big Car Radio Market!

**OFFER THE FINEST NAME AT THE LOWEST PRICE!**

**NEW**

# Motorola<sup>®</sup> car *Golden Voice* radio

**EASY TO SELL**

**EASY TO STOCK**

**EASY TO INSTALL**



all in one  
model 401A

**\$39<sup>95</sup>**

There are few men in business today with the opportunities a Motorola dealer has before him—a staggering potential, a name that is synonymous with car radio, a price that is the lowest in the market!

Yes—there are over 13,690,000 radioless cars on the highways today!—That is your market—ripe this election year, as never before, for news at the car owner's fingertips! And you can offer that market a Motorola radio at a sensational low price—just \$39.95!

#### Offer a 4-Way Choice of Installation

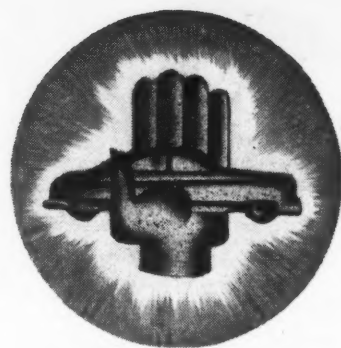
Car and truck owners can choose the power and tuning they want—now you can offer a choice that makes selling easy:

1. deluxe custom set
2. golden-voice custom set
3. deluxe custom set with push button
4. golden-voice custom set with push button

See the Motorola complete line of car and truck radios at your distributor's now while the selling time is hot!



**KICK OUT  
YOUR OLD  
KLUNKERS!**



**WALKER**  
*leads in*  
**JACKS**



**WALKER MANUFACTURING CO. OF WISCONSIN - RACINE, WIS.**

# ... REPLACE THEM WITH WALKER GREYHOUNDS

**Featuring the finest  
Hydraulic Power Mechanism  
ever developed for Service Jacks**



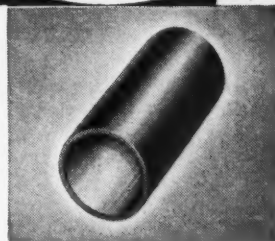
Take hold of the finger-fitting *Pistol Grip* handle on a new Walker Deluxe Greyhound and swing it into action. See how a slight pressure on the handle tilts the jack for easy, speedy positioning. Notice how its sleek chassis is built to duck under long, low overhangs and low-slung axles.

With the handle locked in any of the convenient positions, bring the rugged *Giant Saucer Lifting Cap* into contact with the vehicle. All it takes is a few quick strokes of the *Silent Speed Booster Pump*. Then watch the *Gold Seal Hydraulic Power Unit* go to work, raising the entire end quickly, easily—and safely. Look down under. There's plenty of working space for any undercar job.

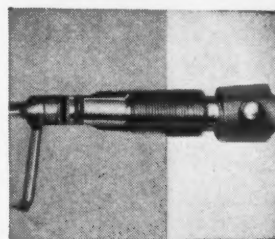
Want to dolly the vehicle? It's easy—with the Greyhound's Full *Radial Thrust* Casters and over-size front wheels. And Walker Greyhounds are built to take it! Exclusive *Straight Line Drive* eliminates side strains on the power ram which might cause leakage. The *Automatic Overload Safety Valve* prevents accidents and injury from overloading.

Yes, Walker Deluxe Greyhounds are the finest combination of jack values your dollars can buy. Kick out your worn-out, time-killing, profit-stealing Klunkers. Go modern—with Walker Greyhounds!—America's greatest hydraulic Service Jacks, engineered to meet all of the demands of present day service.

**New "I.S.D." power cylinder—** Greater wear resistance and a more positive seal between cylinder wall and cup leather mean longer jack life . . . smoother, trouble-free operation.



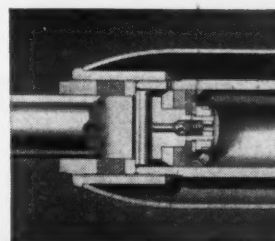
**New self-centering finger tip control—** Ingenious control mechanism prevents valve seat wear and eccentric binding. It's leak-proof and trouble-free, provides more accurate control of lowering.



**Tolerance .0015" precision ground reciprocating parts—** Wear from reciprocating parts reduced to minimum through centerless grinding to a tolerance of .0015"—further assurance of long, safe, trouble-free service.



**New filtered "Hydra-matic" relief valve—** A far reaching development in modern hydraulic jack construction, this new valve eliminates cup washer scoring—one of the most frequent causes of jack failure.



... Serving the Automotive World with Jacks, Lifts, Silencers and Oil Filters

# ... "so help me heads off with

Another amazed user reports on the speed  
and efficiency of Walker Super Kwick—  
sensational rust-busting compound



**EASY AND PLEASANT TO USE**

CONTAINS NO KEROSENE, ETHER

WALKER MANUFACTURING COMPANY



# I pulled those my bare hands!"

"The other day I had to replace the head gaskets on an old model with aluminum heads. They were corroded on so bad that the head pullers we use would not even loosen them.

"I had a can of *Super KWICK* that I bought while on my vacation. I put a few drops on each stud and let it set for 20 minutes and so help me, I pulled those heads off with my bare hands. I wish I could tell you how much I appreciate having *Super KWICK* on hand at all times."

*P. S.* (by Walker) You, too, will appreciate having *Super KWICK* on hand at all times. Get yours today!

**Try it for speed! Sell it for profits!**

## WALKER *Super* KWICK

America's fastest, most efficient rust-busting compound—for all automotive, industrial, home and agricultural needs.  
Economical to use, profitable to sell.



**NOW IN HANDY PINT-SIZED CAN  
WITH CONVENIENT PLASTIC SPOUT!**

Now Walker gives you *Super KWICK* in new pint cans—easier to handle and to sell. Available, too, in regular quart and gallon containers



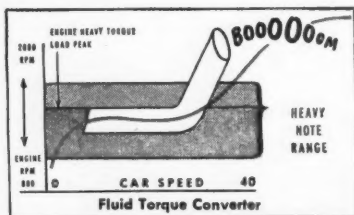
### ... NO OBJECTIONABLE ODOR

ALCOHOL OR HARMFUL ACIDS

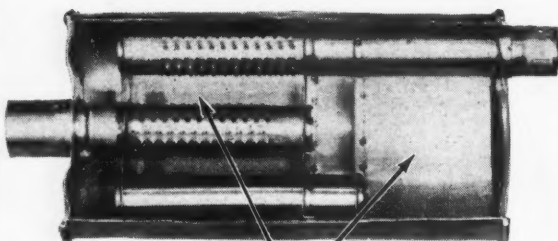
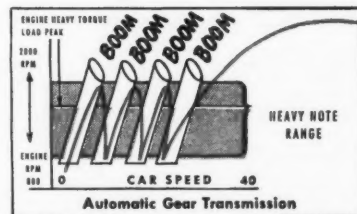
OF WISCONSIN • RACINE, WISCONSIN

# The Race for ...AND WITH "PRECISION OF THE EXHAUST SYSTEM

"PRECISION TUNING" SOLVES THE AUTOMATIC TRANSMISSION PROBLEM

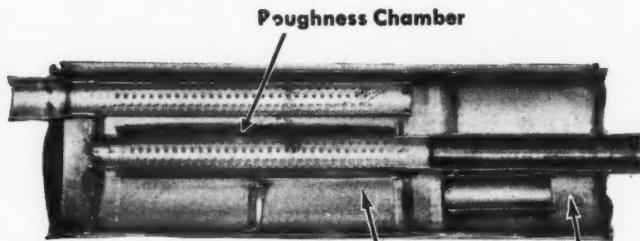


When operating at high torque (1200-1600 rpm) from 0 to 40 mph, the fluid torque converter transmission usually causes the engine to run at an approximately constant speed. This produces a sustained heavy power note. The automatic gear transmission as it passes through its gear changes creates multiple heavy power note peaks. Both are specifically controlled through Walker "Precision Tuning."



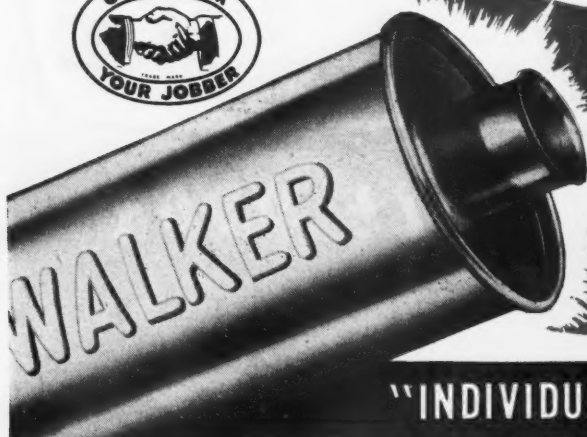
Unique design of Tuning Chamber with Volume Passage greatly reduces "Torque Converter" BOOOM.

NOTE DOUBLE WRAPPED SHELL



Tri-Flow design, Volume Tuning Passage, Tuned Resonator are all used to control Hydramatic Type Transmission "BOOOM—BOOOM—BOOOM."

NOTE ASBESTOS AND COVER



NOW MORE THAN EVER

# WALKER

"INDIVIDUAL TUNING"

For the millions of Fine Automobiles, Trucks and Buses in Active Service.

# Horsepower is on!

IT COMES

# TUNING



## ...THE ENGINEERING AS AN INTEGRAL PART OF ENGINE DESIGN

**A New Generation of Walker Silencers Solves the New and More Complex Problems of a New Generation of Engines and Automobiles**

● Improperly designed mufflers are horsepower thieves! No longer can "yesterday's mufflers" meet even the minimum requirements of today's new standards of car performance and engine design.

More powerful engines, more intense explosions mean: heavier power notes . . . greater tail pipe roughness . . . greater muffler body and exhaust pipe noise . . . and a greater volume of exhaust gases. More automatic operation and increased flexibility through automatic transmissions mean more critical power note peaks. Greater economy and quieter, smoother ride mean rigid back pressure limitations . . . more rigid acoustical specifications.

There is no single solution, such as "trick shell construction," to these new and complex problems. Exhaust system design is now an integral part of engine design. It must comprehend and successfully meet the entire broad front of new engine performance.

To meet these new requirements, Walker offers its newest, most important development of all—*Precision Tuning*—a new generation of Walker Silencers to meet the new and more complex requirements of the new generation of engines—now and in years to come—with Walker "Individual Tuning" for the millions of "other generation" vehicles now in service.

**WALKER MANUFACTURING CO. OF WISCONSIN • RACINE, WIS.**

Exhaust Silencers • Jacks • Lifts • Oil Filters

# SILENCERS

MAKE THE DIFFERENCE

## "PRECISION TUNING"

For the New Generation of Engines and Automobiles—Now and to Come.

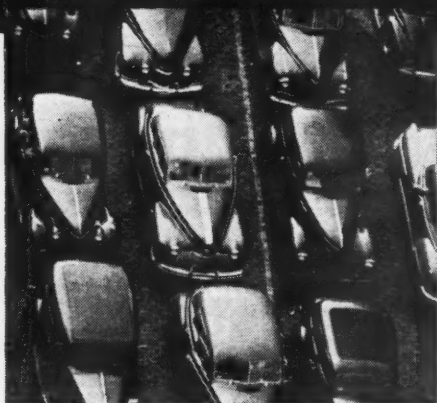
WITH "PRECISION TUNING"  
YOU GIVE YOUR CUSTOMERS...





LUBRICATION AUTHORITIES AGREE:

# "Cold-Engine" Driving leads to EXCESSIVE OIL CONTAMINATION



9 out of 10 of your customers  
are "Cold-Engine" drivers  
They need the Total Protection of  
**WALKER OIL FILTERS**

● Lubrication authorities agree: average drivers—more than any others—are hardest of all on their oil and their engines. They are the starting, stopping, slow-speed, "Cold-Engine" drivers who expose their engines to maximum "combustion blow-by" summer and winter. They are victims of excessive oil contamination.

That's why the average driver—the "Cold-Engine" driver—needs the *total protection* of a Walker Oil Filter most of all. Walker is the filter which acts as an ideal working partner to modern oils.

Walker patented "Laminar" construction gives positive "3-way" protection against dust, dirt and

abrasives. Walker also recognizes and acts against the threat of water, greatest enemy of motor oil and good lubrication. Because of the unusual ability of wood cellulose fibres, the Walker Oil Filter *selectively removes water from the oil* . . . helps check sludge formations by keeping the moisture content of the oil below the critical "sludge danger zone." It also minimizes acid wear by absorbing the acids contained in the water removed from the oil.

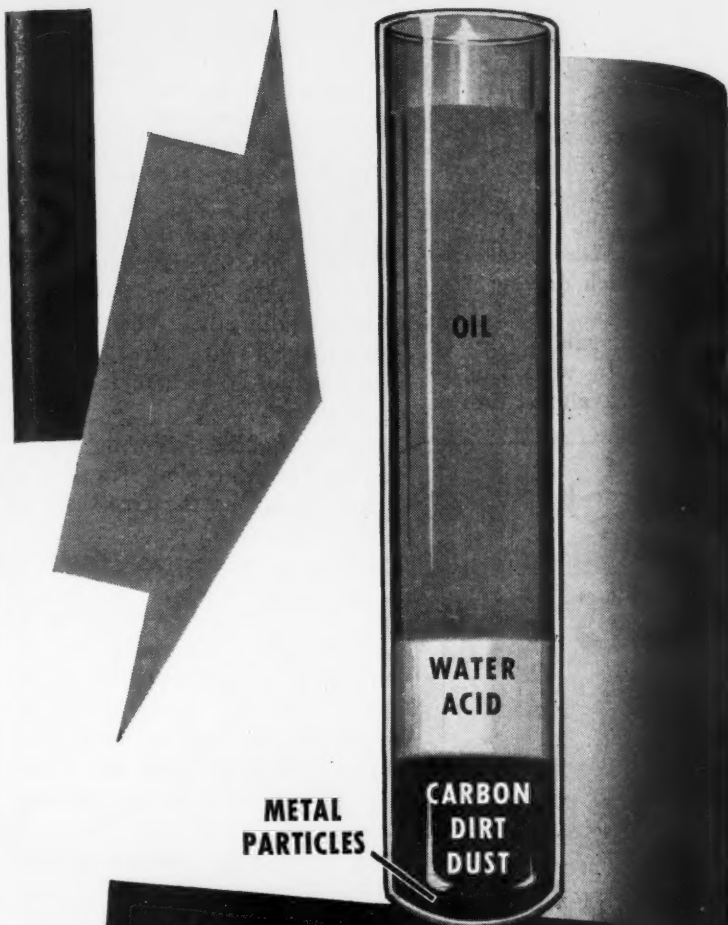
Regardless of the amount of driving your customers do, give them total oil protection by installing Walker Oil Filters or Walker Replacement Cartridges.



# WALKER OIL FILTERS

WITH PATENTED *Laminar* CONSTRUCTION

WALKER MANUFACTURING CO. OF WISCONSIN, RACINE, WISCONSIN  
Oil Filters • Exhaust Silencers • Jacks • Electric Lifts



## WHAT THE ENGINE PUTS IN— WALKER TAKES OUT!

### THE ENGINE PUTS IN—

**Moisture . . .** from "combustion blow-by." Water in the oil is the basic source of sludge—1% moisture puts the average crankcase in the "danger zone" of serious sludge contamination.

**Acids . . .** from combustion fumes. Highly acidic "blow-by" fumes condense in the presence of moisture, create corrosive crankcase acids, the major cause of engine wear. Water in the oil is the "carrier."

**Road Dust and Dirt . . .** from engine breathing. Gritty dust is always present in the air—in cities as well as on the open highway. It finds its way into the crankcase through the air intake.

**Carbon Soot and Lead Compounds . . .** from combustion of modern gasolines. These contaminants "blow-by" into the crankcase where, in the presence of other solid contaminants and moisture, they form sludge.

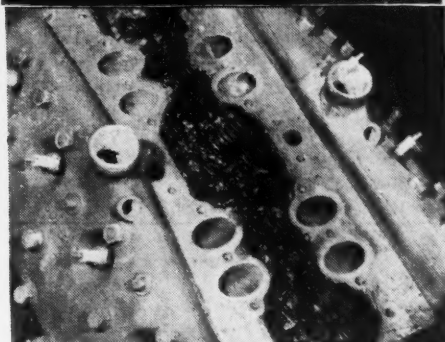
**Metal Particles . . .** from engine wear. Tiny pieces of abrasive metal are always being put into the oil by engines, particularly when new. Once in the oil stream, they scratch and damage vital engine parts.

### WALKER TAKES OUT!



## Here's Why

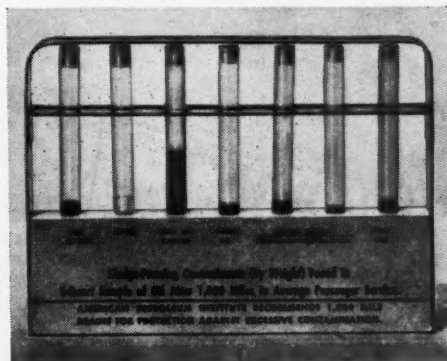
**YOUR CUSTOMERS NEED  
WALKER OIL FILTERS**



**Walker Checks Engine-Clogging Sludge Formations** by removing water from the oil. Water in combination with solid contaminants creates a pasty, mayonnaise-like condition which is the starting point of sludge.



**Walker Checks Corrosive Acid Wear.** Highly acidic "blow-by" fumes condense with crankcase moisture to form wear-producing acids which wash past the pistons. Walker removes water—absorbs the acids it contains.



**Walker Gives Total Oil Protection** because Walker removes the major oil contaminants. Walker takes out harmful water as well as dust, dirt and abrasives—prevents excessive oil contamination . . . preserves the detergent-dispersant properties of modern H. D. oils.

to work. You tell your Mom you're coming with me on Saturday afternoon."

"Okay, Tommy," said the little fellow. Experimentally he pulled the two pistols from the holsters. "Bang, bang," he said. "Woops, two flat tires in front there, Tommy. Fix 'em up while you're at the garage."

Tommy waved a hand as he disappeared up the street. As soon as he got to Pop O'Neill's he drove the car into the back room. He explained the trouble to Larry.

"Was she doing much driving?" asked Larry.

"Oh, yes," Tommy said. "She drives her husband to work and that's way across town, almost into

the city. Traffic is pretty heavy that time of day. She said that just before she got home the pedal got spongy and she was afraid her brakes were going completely bad."

"That's a snap. Bad master cylinder. Just put a new one in. That'll take care of it."

He got a new master cylinder and flushed out the system thoroughly before installing it. When Tommy delivered the car, Mrs. Parsons wasn't home so he left it in the driveway.

First thing the following morning, however, the phone rang and Tommy picked up the receiver. It was Mrs. Parsons.

"One of your jobs came out fine, she exclaimed, "Pete is his old self again, but the car certainly isn't. The pedal went soft again today!"

"I thought we'd fixed that one yesterday," said Tommy, "or I wouldn't have brought it back."

"I'm sure of it," said Mrs. Parsons. "But I don't want to get into an accident."

"Of course not," Tommy agreed. "I'll get the car right now."

When he brought it back to the shop, Pop O'Neill was waiting for him. "Larry says there is a come-back on that brake job yesterday. What's the matter?"

"Darned if I know," said Tommy. "Put in a new master cylinder and flushed out the whole system. It was working fine when I left here."

Pop thought a minute. "Did you say the brake was soft yesterday morning when you went to get the car?"

"Mrs. Parsons said it was soft when she got back from taking her husband to work. But when I drove the car over here it seemed all right to me."

"How's the exhaust system?" Pop inquired.

"No leak," said Tommy. "Remember, I checked it. Remember that Chevrolet that came in where the hole in the exhaust was opposite the hydraulic line causing the fluid to heat up. I remembered that one and I didn't want it to happen on Parsons' car too. No the exhaust system is fine."

"Hop out, Son," said Pop. "Let me go for a ride. This one will take skill, experience and finesse."

(Continued on page 82)

# cheap brake fluids are expensive

Consider your reputation! Consider the safety of your customer! You never save money on cheap brake fluids. So, why take a chance when you can standardize with EIS. Come-backs are costly. It **COULD** make the difference in your next cylinder job!!!

**EIS BRAKE FLUIDS** meet or exceed SAE specifications. **EIS BRAKE FLUIDS** work perfectly under any climatic condition — and they mix with all top-quality fluids.

**SUPER "40"** (moderate) is recommended for all light-duty passenger cars only. (See "DON'T" Below)

**SUPER "50"** (heavy duty) is recommended for all passenger cars, Trucks, Buses, Tractors and Taxis.

**EIS AUTOMOTIVE CORP.**  
Middletown, Conn.



**"DON'T"**  
Master Cylinders on Ford Products (1952) are installed under hood — "GET QUITE HOT!" The Highest Boiling Fluid is none too good. You should use "Super 50" only; protect the job and your reputation. Factory recommends it also.

**"ECONOMIZE"  
WITH**

**NOW AVAILABLE...**  
New Merchandisers  
New Valves  
New Kits

Ask your Jobber  
or write us direct.





the **NEWEST** advancement  
in the science of wheel alinement

gives you the **NEWEST**  
way to sell alinement services

the NEW **"BEAR"**

**Telaliner**

all steering and alinement troubles  
are exposed right before your eyes

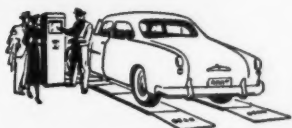


New, Modern  
Cabinet Design Adds Beauty to  
Your "BEAR" Service Department  
... with or without Merchandising  
Background!



**"BEAR"**

**Telaliner**



R6102

Screens All Cars for Steering Mis-Alinement as  
your Customers See It!

Operator reads Screen and makes Adjustments  
without getting out from under car!

Checks Caster, Camber, Kingpin, Turning Radius  
and Toe Electrically! ... Both Mechanical and  
Electrical readings can be made at the same time!

Readings are **MAGNIFIED** on Tell-All Screen  
which requires no High watt, Expensive  
Projection Tubes!

Sells Itself because it's NEW ... it's Novel  
... it's Electrically Accurate, Sturdy, Dependable  
and unaffected by temperatures!

Alinement Checked from Either Wheel Rim  
or Spindle ... Quickly Adaptable to  
Present Equipment!

Stamps your shop as up-to-date with the latest,  
most scientific equipment—Helps sell your  
other "BEAR" Services!

Complete Merchandising  
Program Available to help  
you sell the hottest idea in  
Wheel Alinement History!

ACT NOW—See Your Jobber for Com-  
plete Details about the New "BEAR"  
Telaliner or Write for New Telaliner  
Bulletin!



**BEAR** MFG. CO., DEPT. M-1, ROCK ISLAND, ILLINOIS

Some time later Pop came back. "How does it act?" asked Larry. "Okay?"

"Sure does," said Pop. "The pedal went spongy just before I got back here. It's just as Mrs. Parsons said. It was fine when I started out but after awhile it went soft."

"Oh don't kid us Pop," said

Larry. "When they're fixed, they're fixed, and I fixed that one right."

"Larry," said Pop, "do me one favor. Crawl under there and feel that stop light switch."

Larry gave him a quizzical look but crawled under. Suddenly he let out a yell. "Wow," he said, "is that ever hot."

"Just what I figured," Pop grin-

ned at Tommy. "Bad switch. Not a dead short but the next thing to it."

"I get it," said Tommy. "The switch heats up and causes the fluid to boil. Then the pressure goes down."

"Yes," Pop agreed. "It just happened that the short wasn't completely dead. And when the fluid returned to normal temperature, the pressure went up again."

"How did you ever figure that one out?" said Tommy admiringly.

"Oh, it wasn't so hard," said Pop. "When you've had as much experience as I have, you find that you can think of the whole actions of a car and one by one eliminate the possible causes of trouble until only one is left." He shrugged, "This time this was it. A good mechanic, my boy," said Pop waving his finger in mock pomposity, "must have the wisdom of a Solomon, the patience of a Job and the imagination of a . . . a . . ."

"My golly," Larry broke in, "this sounds like straight propaganda."

"All a mechanic does, Tommy," Larry continued, "is fix cars."

Pop laughed politely and did not argue the point. "Speaking of propaganda reminds me of a good Russian story I heard downtown yesterday.

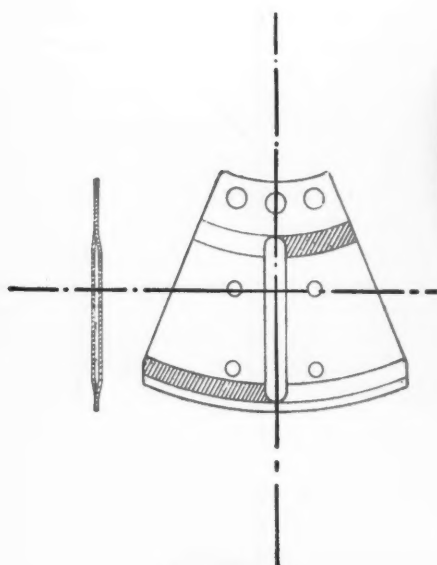
"Seems Malenkov was reporting to Stalin that it had just been verified that Adam and Eve were Russians.

"Oh so," said Stalin. "Good. But what definite proof have we?"

"No one will dispute our proof," Malenkov replied. "Adam and Eve had no clothes. They had no roof over their heads. All they had to eat were apples. And they still believed they were in Paradise. They must have been Russians."

"One of your better stories, Pop," Larry put in. "No clothes, no roof over their heads, only apples to eat." He shook his head in sympathy. "Sad characters, hey, Tommy—just like us. Now, Pop, how about a raise . . ."

But Pop had guessed what was coming and already had his fingers plugged tightly in his ears.



## SMOOTHER ENGAGEMENT

The flat-top construction of the Accurate Powerflex cushion distributes the wear evenly over the entire facing surface. High-spot contacts are completely eliminated. Effective cushioning action is assured for the entire life of the plate. And this exclusive Accurate design is a vital factor in making the Powerflex engage more smoothly and more efficiently than any other clutch plate made.

**WRITE FOR DETAILS**

*Exclusive Features of the*

## POWERFLEX CLUTCH PLATE

- Self-Aligning Hub Splines
- Flat-Top Cushion
- Spring Supports
- Safety Stops



**There's a New Powerflex Clutch Plate  
in Every ReNu-Accurate Clutch Set**



**Accurate** Parts Mfg. Co.  
12435 EUCLID AVENUE • CLEVELAND 6, OHIO

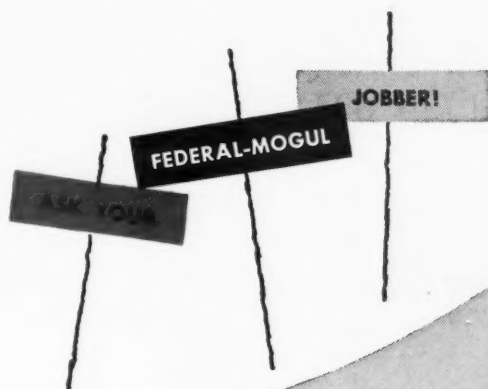


# BOWER

TAPERED AND STRAIGHT ROLLER BEARINGS

## For Fast Service on Roller Bearings

For top-quality roller bearings, and the fastest, most dependable service . . . get Bower roller bearings from your Federal-Mogul jobber! Get highest-accuracy tapered and straight roller bearings in ONE line—the Bower line! They're brought to you by the biggest service network in the bearing business . . . you can depend on Federal-Mogul *SERVICE!*



### FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)

DETROIT 13, MICHIGAN



# YOU can Sell Original Equipment

OLDBERG  
MANUFACTURING CO.

*Subsidiary of*  
**THE AP PARTS CORPORATION**

**AP**

*Mileage Getting*

# Mufflers!

Our wholly owned subsidiary—Oldberg Manufacturing Company—has made or is making mufflers for original equipment on millions of cars including:

Pontiac • Mercury • Oldsmobile • Lincoln  
Studebaker • Chrysler • Nash • Cadillac • Hudson  
Ford • Packard • White • GM Truck • Divco  
Reo • Federal • International • Mack

The same fine engineering and manufacturing facilities produce AP mufflers. That's why AP dealers are always sure of maximum silencing, perfect fit, quick installation and customer satisfaction.

**THE AP PARTS CORPORATION**

1581 AP Building • TOLEDO 1, OHIO

Manufacturers of: MUFFLERS • PIPES • MIRACLE POWER • dgf 123



# Mufflers

## Clearing House . . .

### This Shop Has Poor Idle Complaints on Fords

*We would like to have some information on 1951 Ford V-8 engines. Several of these cars have come to our shop with complaints of poor idle. We have done all the work such as check the compression, new points, plugs, etc. All this work has been done to the manufacturer's specifications. Several new carburetors have been installed but still there is poor idle. All the heads and manifolds have been tightened also.*

H. Liebhaber,  
Harry's Battery & Ignition Service,  
New York, N. Y.

**T**HIS isn't a chronic condition on these jobs as far as I know. I would suggest checking the vacuum to make sure it is up to specifications. It should read between 17 and 21 inches. Check the vacuum advance unit diaphragm on the distributor for leaks. A faulty diaphragm will cause engines to idle roughly.

### Interchangeable Parts Problem on Ford Engines

*I would like to find out if a 1934 Ford V-8 camshaft is different from a 1946 camshaft and if it is, just what is the difference? What will a 1934 camshaft do in a 1948 Ford motor with a set of 1950 Ford pistons?*

*I have a 1948 V-8 motor that I want to use in average highway driving. The motor in my car now doesn't seem to have power enough to pass other cars at 60 mph. Would shaving the heads at .040 plus cutting down the flywheel and twin mufflers, help me any? Also would any of these things shorten the life of my car?*

Versal B. Treanor,  
Dubuque, Iowa

**T**HE difference in the camshafts is the way they are ground. The latter one is an improvement over the 1934 and little would be gained by going back to the 1934 type. What you will find—is in the valve lag—in the time that the exhaust opens and closes. Personally, I believe that you would lose power rather than gain it.

On your second question, on getting more power out of your 1948, I would suggest planing these heads and installing dual carburetors with dual exhaust. This would help more than anything else. As for your speed, I would suggest that you install a low gear ratio in the rear end. This will give you maximum pick-up at all speeds. I would not recommend doing anything to the flywheel. These changes would not effect the engine life to any great extent.

### Half-Ton Chevrolet Truck Sticks in High Gear

*I have a customer that has a 1946 Chevrolet ½ ton pickup that sticks in high gear. I have torn it down three times so far and in all have put in all new gears*  
(Continued on page 127)

wiring from the ignition switch to the "SW" terminal and replace the dash unit if it does not act as described. Reconnect the lead to the "GA" terminal and disconnect the lead from the tank unit. The gage should stay against the left stop pin when the ignition is turned off. If it indicates "full" look for a ground in the wiring between the dash and

the tank units. Ground the lead in the tank unit. If the gage does not move to the right stop pin, look for an opening in the wiring.

The above tests checked for faults in the dash unit variable field winding and for opens or grounds in the connecting wires, but did not check the constant field winding or tank unit. To test these parts con-

nect the tank unit known to be in good condition to the "GA" terminal on the dash unit and ground the tank case. Operate the float arm manually and observe the readings. If the dash unit indications are incorrect, remove and calibrate the dash unit; while if the dash unit indicates correctly replace the tank unit. If no spare tank is available to make this check, remove the tank unit and use it for the above check. If the dash unit constant field winding is open the gage will read "full" over a large part of the float arm movement, while if the tank unit is faulty, the gage will be erratic or will not operate at all.

If the operation of the gage is erratic, it may indicate that there is interference with the pointer movement. Remove the dash unit and inspect the pointer and armature assembly. Straighten the pointer if it has been bent and rubs against the dial and frame. Check to make sure there is a slight amount of end play in the shaft and that the bearing plates have not been bent out of alignment. Make sure bearings are clean. If the adjustable bearing is loose or after adjusting the end play, apply a drop of air drying varnish to prevent the bearing from turning. Later gages do not have this adjusting bearing screw, the shaft being held in position between the bearing plates, the upper one being loose and held in place by the dial screws. In no case should varnish be applied to this type of bearing and adjustment is not necessary.

(Continued on page 88)

## The RIGHT SOLDER



A soldered joint is no better than the solder used to make it. A poor grade solder often leads to a poor job . . . customer dissatisfaction . . . additional costly repairs . . . and smaller profits for you! That's why it pays to get the best solder you can buy. Buy Federated Solder and you get a tin and lead alloy carefully prepared and engineered by experienced production men under the strictest metallurgical controls.

A variety of Federated Acid Core Solders containing an active chemical flux is recommended for all automotive repair work . . . Federated Solid Wire Solders where a separate flux is desired. Available in all commercial wire sizes and compositions through your local jobber.

*Federated Metals Division*

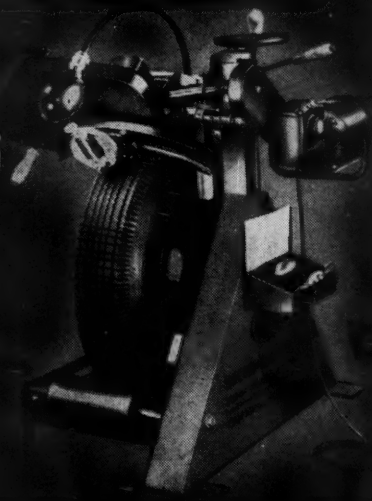


AMERICAN SMELTING AND REFINING COMPANY • 120 BROADWAY, NEW YORK 5, N. Y.





*John*  
**BEAN** **PECO**



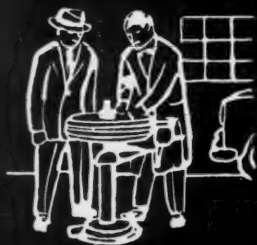
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Make tire de-skidding an extra value on every new car.



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Sell "Skid - Defier" service with brake, alignment, balancing or tire repair jobs.

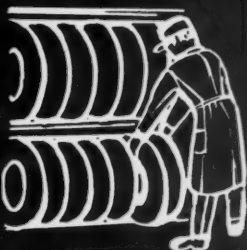
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Convert conventional new tires to safe, longer wearing, "Skid-Defied" tires.



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TOOLS • WEIGHTS • STEAM CLEANERS

• WHEEL BALANCERS AND BALANCING  
• CAR WASHERS • HEADLIGHT TESTERS

\*TRADE MARK

## Fuel Gages . . . . . Continued from Page 86

To calibrate the dash unit, remove it from the panel and mount it in the same position. Check to make sure the pointer turns easily and returns to the left hand stop from any position. The pointer should return promptly and have a very slight bank against the stop.

Connect the "SW" terminal on the dash unit to one battery termi-

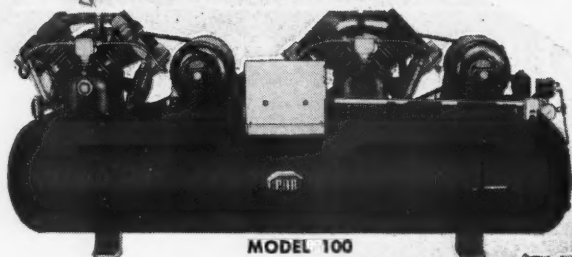
nal and ground the dash unit frame to the other battery terminal. Connect the tank unit to the "GA" terminal and connect the tank unit case to the battery ground terminal. Place the float arm in the "full" position (against the upper stop) and turn the right hand pole shoe so that the pointer just indicates "full." Place the float in the

"empty" position (against the lower stop) and turn the left hand pole shoe to give the correct indication. Repeat this process at the "full" and "empty" positions until no change is necessary. To rotate the pole shoes pry on the "U" shaped lug on the top edge of the shoe as shown in Fig. 7. Check the indications at the "full," "half full" and "empty" positions. When calibrating it may be necessary to spread or reduce the upper pole shoe to increase or decrease the air gap between the pole and armature. After all the adjustments are completed, apply a drop of air drying varnish to each pole shoe to prevent slipping.

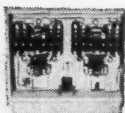
When installing the gages in the panel or tank be sure not to bend the pointer or arm. Have all the gaskets in place and check for possible binding caused by distorted panel or by improper assembly.

The thermal type dash unit as illustrated in Fig. 3 has two bi-

# Look to PAR for air power!

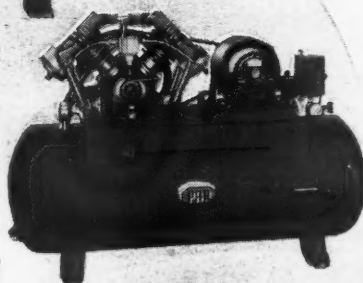


MODEL 100



DELAYED STARTING CONTROL

**PAR** GIVES COMPLETE SIZE RANGE FROM  $\frac{1}{3}$  TO 2 H.P. ONE STAGE,  $1\frac{1}{2}$  TO 10 H.P. TWO STAGE.



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**PAR** GIVES DEPENDABILITY THAT GETS THE JOB OUT ON TIME.



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GLASS FORMING MACHINES



"Ever notice how a new man always seems to get the toughest sales territory?"

metal strips that are wound with heating coils and two bimetal strips without coils that compensate the unit for external temperature and also protect the coils from overheating. The heating coils are wound around the strips that actuate the pointer and are welded to the strip at the lower end. The other ends of the coils are connected to the terminals marked "1" and "2" respectively. The left bimetal strip has a set of contact points at its lower end which are held together by the coil spring below the hinge pivot. The right

(Continued on page 90)

# ALCOA LO-EX Means Fast-Selling Pistons!

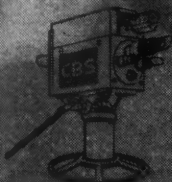
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T-Slot



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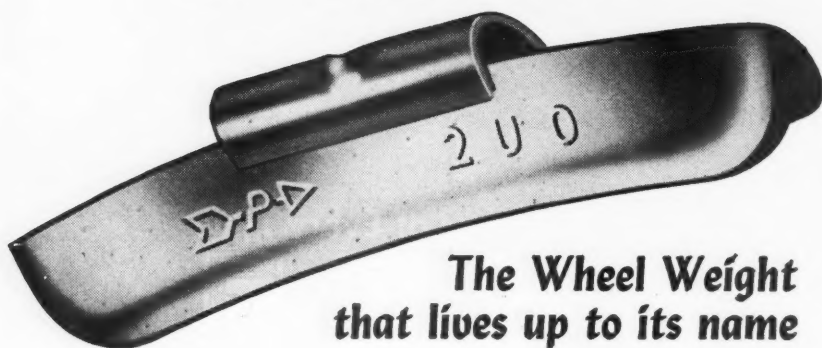
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...Where  
**BALANCE**  
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 WHEEL WEIGHTS



The Wheel Weight  
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● "U" TYPE

A favorite in the industry. Fits ALL rims having factory trim rings except late model Cadillacs.

● "C" TYPE

The "C" type weight (new style) in six sizes will give most satisfactory results on passenger cars with "K" or "L" type rims.

● "SPECIAL" TYPE

Made for late model Cadillacs with hub caps covering entire wheel, except 1951 model for which "C" type weight is recommended. 6 sizes.



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Manufacturers of Wheel Weights for Trucks and Passenger Cars

**Fuel Gages . . . . .**

Continued from Page 38

hand bimetal is held stationary at its lower end by an insulating stop.

The internal and external connections of the thermal type fuel gage with its corresponding tank unit are shown in Fig. 1. This type tank has two terminals that are marked "1" and "2" and are connected to the terminals on the dash unit which have the same markings. Both ends of the resistance are insulated while the ground connection is made through the sliding contact. Movement of the float arm varies the resistance and therefore the current in the two heater circuits. The amount of bending of the two bimetal strips depends upon the current in the heating coils. This bending causes the lower end of the strips to grip the pointer and move it into position.

The two outer bimetal strips are assembled so that any external temperature change causes the hinges to rotate slightly and move the strips that actuate the corners so that the pointer is held stationary. If the pointers become overheated, the excess bending of the strips rotates the left hand hinge slightly and opens the contact points. Cooling begins immediately and the coil

(Continued on page 92)

ON A "WHISTLE STOP"  
 YOU'LL WIN, TOO, WITH  
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 FIBER BLOCK**



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38

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Chilton's MOTOR AGE, OCTOBER, 1952

## Fuel Gages . . . . . Continued from Page 90

spring closes the contacts, causing only a very slight movement of the pointer.

With the thermal type gage it is sometimes necessary to add a radio resistance unit assembly so that the radio interference due to operation of the gage contact points is eliminated. This resistance fits over the gage terminal studs and is installed

before the wire terminals are in place.

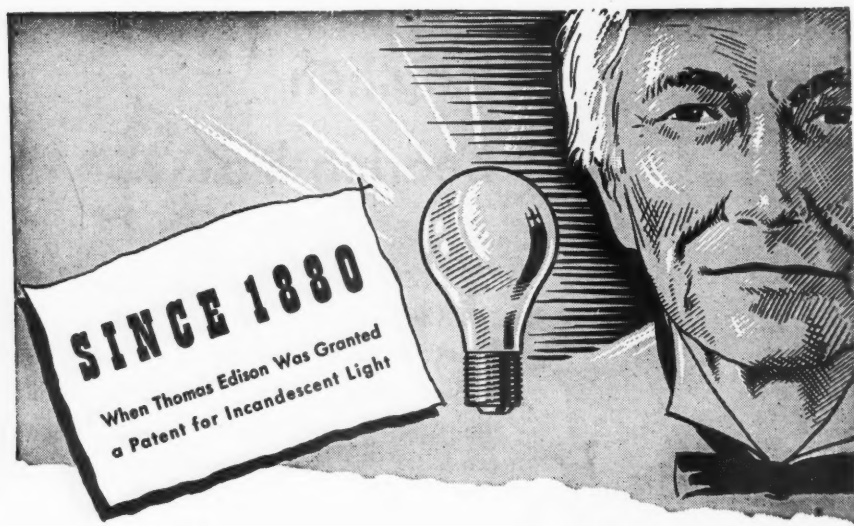
If the gage does not give an accurate indication of the amount of fuel in the tank, check to locate the trouble as follows:

Disconnect the leads from the No. 1 and No. 2 terminal on the dash unit and turn on the ignition. Ground the No. 2 terminal and

allow approximately one minute for the gage to reach its indication which should be above the "full" position. Ground both the No. 1 and No. 2 terminals and the gage should return slowly to the "half full" position. If the dash unit does not operate correctly remove it for a complete check and adjustment. If the dash unit operates correctly reconnect the leads to the terminals and disconnect the leads from the tank unit. Repeat the above test by grounding first the lead that was connected to the No. 2 terminal on the tank unit then by grounding both leads. If the indications are not as described it indicates a grounded or open lead which should be repaired. By elimination, if the gage operates correctly in the above two tests, the tank unit can be regarded as the cause of the original inoperation. When reconnecting the leads to the dash or the tank units be careful not to interchange them as this would reverse the indications.

Erratic or incorrect indication may be caused by a loose connection or a ground in the wiring or terminals while a fluctuating pointer is usually caused by dirty contacts in the dash unit. Sticking pointers may be caused by a bent pointer or frame or by interference between the gage and the panel. Re-

(Continued on page 94)



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### DELCO BATTERIES

A GENERAL MOTORS PRODUCT  A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

## Fuel Gages . . . . . Continued from Page 92

move the gage from the panel and inspect for a bent pointer or pointer bearings. Check to see that there is a slight amount of end play in the pointer shaft and that the pointer turns freely. Clean the contacts by drawing a strip of clean bond paper between them.

To calibrate the dash unit, place the gage on the bench in the same

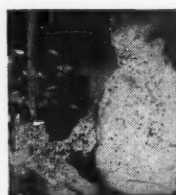
position as it was mounted in the panel. Shield the unit from air currents that would cause uneven cooling of the bimetal blades. Connect the "TNSW" terminal to the battery, connect the No. 1 and No. 2 terminals to the tank unit known to be in good condition and ground the tank unit case to the other battery terminal.

Set the float arm in the "empty"

position and allow time for the pointer to reach its indications. Adjust the pointer position by moving the arm carrying the stationary contact point. This arm is pivoted at its upper end and can be moved out or in with a slight pressure. Set the float arm in the "full" position and allow time for the pointer to come to rest. Adjust the pointer position by moving the arm carrying the insulating stop in the same manner as that just described for the left hand arm. Repeat the adjustments at the "empty" and "full" positions until no more change is necessary.

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*Just like the original equipment*



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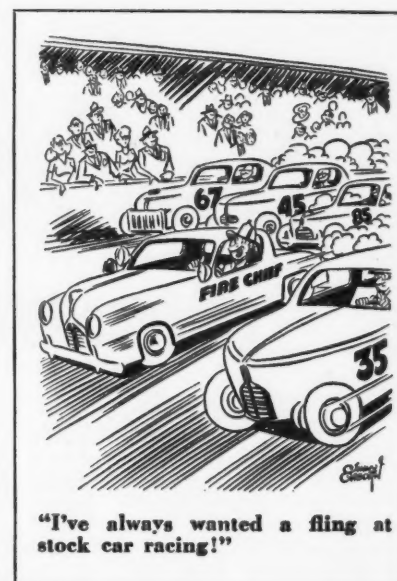
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*Sleeve-B Type*

Sleeve Bearing Headquarters Since 1901



## Import Sales

Sales in the United States, of British motor cars, increased 21 per cent during the first four months of 1952 in comparison with the same period a year ago. From January through April this year, the total was 6610 compared to 5292 for the same period in 1951. Exports from Britain are expected to increase throughout this year.

## Gas Turbines

Gas turbine cars are now being built by four British firms. The Rover Company, recently demonstrated the power of its car by a speed trial in which the car went 151.96 mph. Now the Austin Company is building a gas-turbo car which will undergo full tests. Rolls-Royce and Armstrong Siddeley are also carrying out experiments in this field.

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EDELMANN T-131

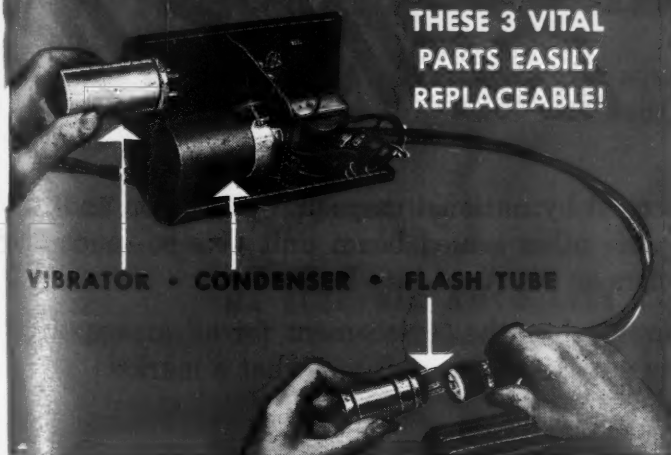
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Compact, built-in power amplifier operates direct from car battery . . . throws a brilliant beam of concentrated light. Handy "Flash Tube" is protected by sturdy rubber housing, yet small enough to reach in "tight corners."

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MEAN EASIER, BETTER TIMING!

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# WHICH WOULD YOU

# This One

**AUTO-LITE *Bull's-Eye***  
**CONTINUES TO BURN**  
**EVEN WHEN LENS IS**  
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Nothing but a metal back sealed beam unit like the Auto-Lite Bull's Eye continues to burn even when lens is cracked or broken. All other types black-out at once . . . the Auto-Lite Bull's Eye continues to give light.

## WHY IS THE AUTO-LITE *Bull's-Eye*

METAL BACK SEALED BEAM LAMP

- ◎ Bull's Eye is backed by national magazine, television and radio advertising . . . no other sealed beam unit gets so much sales push to car owners as the Auto-Lite Bull's Eye.
- ◎ Bull's Eye is designed as the replacement for all makes of cars and trucks using a sealed beam unit . . . what a market!



## SEALED TIGHT—STAYS BRIGHT..

# BUY FOR YOUR CAR?

# OR This

LAMP WITHOUT BULL'S  
EYE FEATURES BLACKS  
OUT WHEN LENS IS  
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## SUCH A RED HOT MONEY-MAKER?

- ⊙ Bull's Eye is sealed under 9000 lbs. per square inch pressure to exclude moisture and dust and maintain full candle power throughout lamp life.
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Tune in "Suspense!"...CBS Radio Mondays...CBS Television Tuesdays

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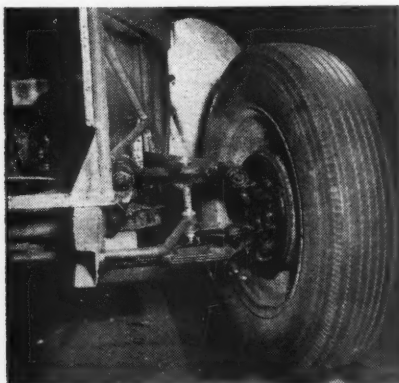
## Only Auto-Lite Makes the Bull's Eye!



## Jabro Sportscar . . .

Continued from Page 58

sheet metal, and from aluminum which he hammered into the shape he wanted for a large part of the body. The frame of the Studebaker was chopped and re-welded to suit his design and the power plant has been re-worked to incorporate his own ideas for power and efficiency. The basic steering wheel he made from steel on a lathe. Then he cut six pieces of hand carved gun stock walnut on top, six underneath and riveted them on to round off the circumference.



**Fig. 4.** The front wheel assembly showing independent suspension that Broadwell worked out to meet his needs. He used a torsion type, anti-sway bar (Buick) connected to rubber mounted links (Chevrolet). Bracket is welded to the "A" frame.

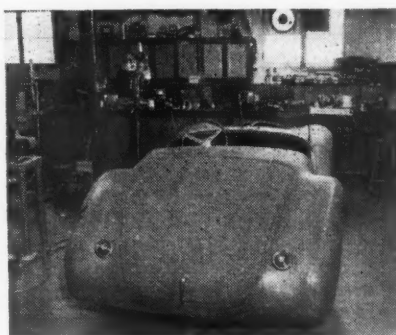
Now finished except for the bumpers and top, the Jabro is a low slung, streamlined sportscar with an estimated 125 hp, and capable of a speed of about 115 miles an hour. It has a curb weight of about 2350 pounds. Wheelbase is 106 inches. Overall height is 38 inches.

It is equipped with a conventional three speed forward and reverse transmission and also has an overdrive. The car has been designed to have the essential sports-car characteristics of good braking, fast steering, and ability to "corner."

Construction was worked out without the use of the model or drawings. Broadwell started with a wrecked Studebaker and cut and re-welded the chassis centers so

that it would be four inches lower and two inches shorter. Then he clamped four fenders and a deck lid (new replacement parts of old models cars) into various positions to establish the overall lines. Then he constructed a welded tubular frame to support the fenders and lid into position, and "the rest of the lines just fell in." The outside sheet metal of the doors, the front and other parts of the body skin were shaped by hand in a home-made curving device, from cold rolled sheet steel. The hood was shaped from aluminum. Starting from the original engine block, Broadwell made the engine he wanted. Cylinders were rebored from oversize, valve seat angles were changed, rod and pistons individually balanced and polished, a special camshaft, thin aluminum cylinder head and water-heating manifold were installed as well as two synchronized carburetors. Engine mountings, springs, drive shaft, steering arrangement, radiator and many other standard parts were radically altered to meet the requirements of this special design.

Broadwall, who is head of a wholesale electrical appliance firm, has long made a hobby of automobiles. He has learned about them



**Fig. 5.** The body is welded into a single piece and welded to the frame, which is bolted to the chassis.

from working with them and reading about them. He completed the entire construction in the basement except for the wiring and the final paint job. To get it out, he re-



**Fig. 6.** Six coats of lacquer were sprayed on. The windshield, which was made from steel formed into box sections on a metal shaping device, was removed during painting.

moved the engine and wheels, turned the body side ways and slid it out in a protecting crate through a basement door which he had built extra wide with just such a contingency in mind.

### How to Get Rid of Smoke Odors After a Fire Job

A number of letters have been sent in to Motor Age by readers seeking information on how to eliminate smoke odors after a fire job. This is one problem that can really be tough to lick, since the smoke seems to permeate the entire interior of the car, including the headlining, door upholstery, seat padding, and so forth. Unless every piece of fabric on the car is replaced, there is a good chance that the odor will stay around for weeks, and sometimes months.

In a recent issue of the du Pont Refinisher News there's a suggestion on this subject well worth passing on to all body shops. Spray a five to ten per cent solution of formaldehyde and water on all exposed trim, behind the instrument panel, down in the glass openings on the doors and in other places where the odor may be lingering. Using a spray gun to apply the solution is best because there is less danger of spotting the upholstery.

Then get some oil of wintergreen (both this and the formaldehyde are available from drug stores) and saturate some wood shavings in a container. Allow this to remain in the car overnight. Then air out the car and the smoke odor should be gone.

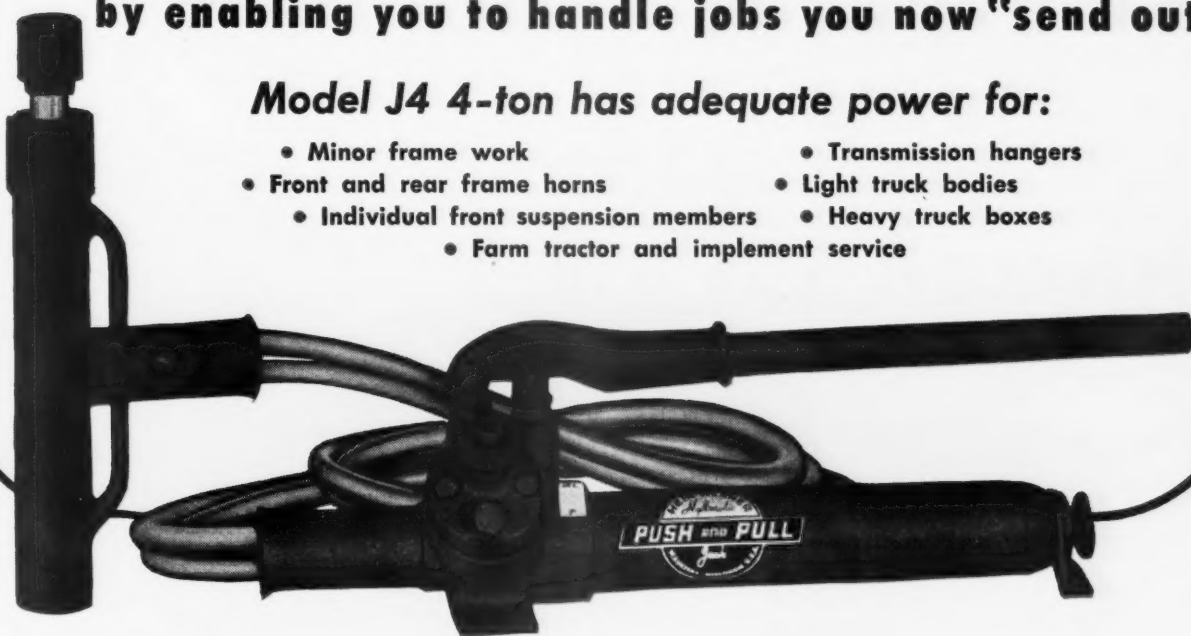


# A Hein-Werner 4-ton "PUSH and PULL" Hydraulic Jack will INCREASE YOUR PROFITS

by enabling you to handle jobs you now "send out"

*Model J4 4-ton has adequate power for:*

- Minor frame work
- Front and rear frame horns
- Individual front suspension members
- Farm tractor and implement service
- Transmission hangers
- Light truck bodies
- Heavy truck boxes



Think of the extra profits you could make by doing a major share of the jobs you now send out or refuse . . . jobs that small capacity jacks cannot handle. It takes no big investment. A Hein-Werner Model J4 4-ton "PUSH and PULL" Hydraulic Jack will provide adequate power for ALL types of body and fender repairs as well as minor frame work.

The Model J4 is light in weight and easy to handle. Provides direct "push" or "pull" action with one ram. You merely turn valve from right to left.

Pump operates at any angle and in any position without becoming airbound. Safety valves prevent overloading.

Other Hein-Werner "PUSH and PULL" Hydraulic Jacks are available in models of 10 and 20-tons capacity for heavy frame work with a complete choice of attachments. For details, including prices, see your H-W jobber or write us.

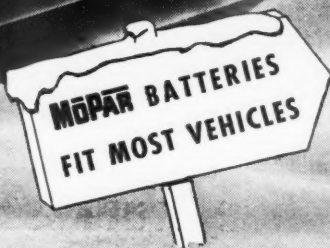
The Hein-Werner line of hydraulic jacks is COMPLETE! It includes Under-Axle Jacks for trucks and buses... "Bumper-Lift" Hydraulic Jacks for passenger cars... "Swift-Lift" and Service Jacks for shop use... "Push and Pull" Hydraulic Jacks for body, fender and frame work.



**Hein-Werner Corporation, Waukesha, Wis.**

**Hein-Werner**  
HYDRAULIC JACKS

FOR *Positive*  
*Performance*

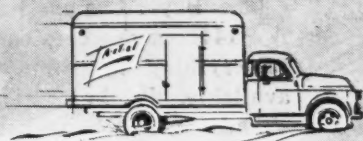


For specific information on the use of MoPAR Chrysler Engineered batteries inquire about application chart from any Plymouth, Dodge, DeSoto or Chrysler dealer.

CHRYSLER CORPORATION • PARTS



# Longer Life



Use always-dependable

# MOPAR

Chrysler-Engineered

# BATTERIES

Approximately one out of every two vehicles in use today will require a new battery this winter. So get ready *now* for this multi-million dollar battery season by stocking and featuring MOPAR batteries.

MOPAR batteries are engineered especially for Plymouth, Dodge, De Soto and Chrysler cars and Dodge "Job-Rated" trucks by the same men who designed and built these vehicles. They're scientifically constructed to maintain *plus* power over maximum periods of time, at minimum cost. And their positive per-

formance is assured by constant production checks, careful laboratory and pre-shipment inspections and factory-fresh delivery.

There's a wide range of dependable, long-lasting MOPAR batteries for every car and truck need—from 80 amp.-hrs. to 135 amp.-hrs. capacity. Estimate your battery needs for the coming busy season now . . . and place your order early. You can get MOPAR batteries from any Plymouth, Dodge, De Soto or Chrysler dealer and from many general service and repair shops.



S DIVISION • DETROIT 31, MICHIGAN



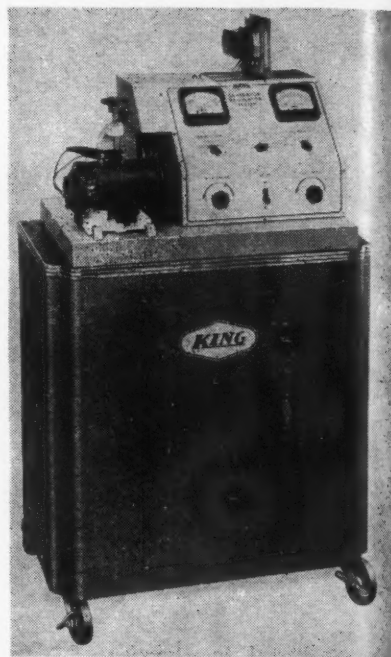
## New Products . . . . Continued from Page 54

### 427. Safety Catalog

The Boyer-Campbell Company: A 144 page catalog entitled "Everything for Safety" is now available. It describes face shields, welding helmets, safety clothing, machine guards, etc. Anything required for a comprehensive safety program is said to be described in this publication.

### 428. Test Stand

King Electric Company: Two new models of the standard King generator and regulator rest stand have been announced. They are modifications of the GT-15, containing many improvements. The outstanding innovation of this model is the complete elimination of conventional testing



leads. Test stand connectors to the generator and regulator are exactly the same as in any ordinary vehicle installation. Clearly identified electrical switches provide any desired series of tests in the units. The testers are available in bench models and cabinet models, and standard units are for six volt generators only, driving at rated output up to 60 amperes.

### 429. Radiator Tank

Inland Mfg. Company: A new radiator cleaning tank designed especially to enable the small to average size operator to clean radiators for repairing by modern method of hot chemicals has been announced. The model J-1 radiator cleaning tank offers such mechanical features as a 12 gage steel tank, encased in 1 inch of  
(Continued on page 104)

# POWER-PUNCH

for modern engines

**HOT SPARK**

## NIE-TRON

super heavy duty coil

The guts, the performance, the *reserve power* you need to meet top demands of today's improved engines. Much greater secondary output than standard coils, with hot spark at high speeds. No extra draw or overload on primary system, precluding point failure and need of high-capacity condenser. Will fire an engine on as low as 2 volts.

**NO NEED FOR HIGH CAPACITY CONDENSER  
RECOMMENDED FOR ALL 6-VOLT SYSTEMS  
MAXIMUM INSULATION  
UNIVERSAL BRACKETS  
FURNISHED FOR ALL POPULAR MAKES AND MODELS CARS, TRUCKS, BUSES, TRACTORS**



**Built for the  
BRUTE JOBS of today!**

Send for Detailed Information

**C.E. NIEHOFF & CO.**

4925 W. LAWRENCE AVE. • CHICAGO 30, ILL.



# ROAD TESTS prove *Round* tire chains outwear other leading makes by 25.9%

In comparison road tests conducted by independent engineers, a Round Tire Chain is applied on one rear wheel, another brand of chain on opposite wheel. Car is driven over all types of road surfaces until each chain breaks. Road tests are followed by metallurgical analysis to determine how Round Chains can be improved. Testing company name and test details on request.

**ROAD TESTING  
 ROUND  
 ROAD TESTED  
 TIRE CHAINS  
 MADE BY ROUND CHAIN COMPANIES**

Actual road testing of tire chains is the only sure way to determine their wearing qualities. That's why independent engineers road test Round Tire Chains *continuously* . . . to determine how they wear and to reveal how they can be improved.

These engineers also test other brands of chains. In recent tests, described above, they reported that Round Chains outwear other leading makes by 25.9%! They PROVED by actual road tests that Round Chains have superior wearing qualities.

The 25.9% superiority of Round Tire Chains means you can offer your customers a chain that gives an *extra mile* of service for every four they drive — at no extra cost. It's the kind of product you can sell quickly and easily, with the confidence that you're selling the BEST!

So why not sell Round — the tire chain PROVED 25.9% longer wearing by actual road tests! Ask your jobber for Round Road Tested Tire Chains TODAY.



## NEW PACKAGE!

Colorful, sturdy, clearly labeled box adds point-of-sale selling power . . . makes handling and stocking fast, easy.

ORDER *Round* ROAD TESTED CHAINS FROM YOUR JOBBER!

Wherever You Are . . . You're Near a *Round* Chain Factory

THE CLEVELAND CHAIN & MFG. CO.  
 Cleveland 5  
 THE BRIDGEPORT CHAIN & MFG. CO.  
 Bridgeport 1  
 ROUND CALIFORNIA CHAIN CO.  
 So. San Francisco  
 THE ROUND CHAIN & MFG. CO.  
 Chicago 38



ROUND LOS ANGELES CHAIN CORP.  
 Los Angeles 54  
 ROUND SEATTLE CHAIN CORP.  
 Seattle 8; Portland 10  
 THE SOUTHERN CHAIN & MFG. CO.  
 Birmingham 4  
 ROUND WOODHOUSE CHAIN & MFG. CO.  
 Trenton 7



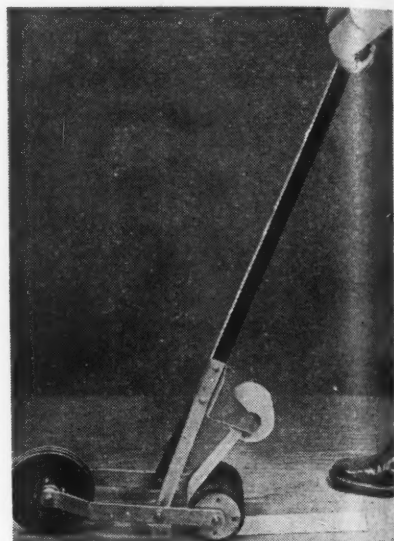
insulation and steel outer tank; a large useable inside space; and an immersion type burner which gives even, efficient, economical heat. Four to six average size radiators can be cleaned in this tank at one time.

## 430. Lane Marker

Minnesota Mining & Mfg. Co.:

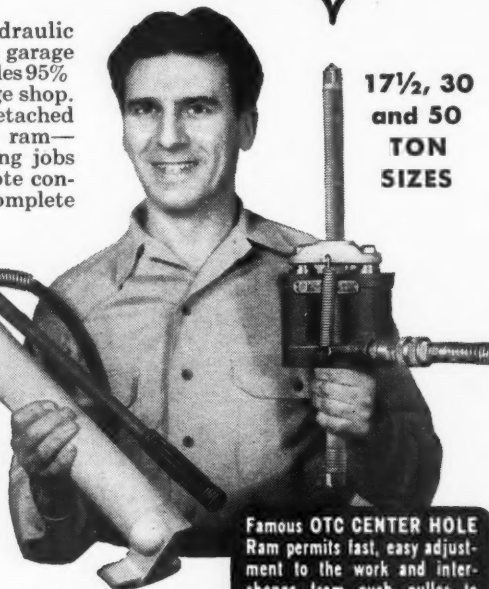
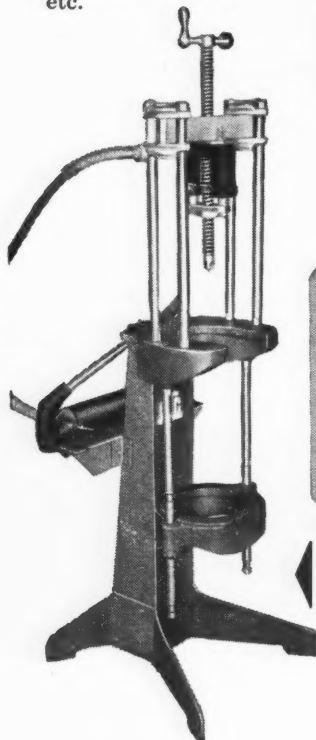
A light weight applicator for applying lane marking tape to garage floors has been announced. Trade named "Scotch" brand lane marking applicator, the unit is designed to semi-automatically apply strips of "Scotch" brand plastic film tape to make traffic lane and parking stalls on floors. With the new applicator, only one man

is needed and the tape is applied and rolled in a single step. The operator pushes it along the floor with the aid of a waist-high handle. The tape is fed off a roll holding attachment under the pressure wheel and applied to the



# OTC Tough Jobs! They're a cinch with the CENTER-HOLE HYDRAULIC PULLER

The OTC Power-Twin Hydraulic Puller is an ideal, economical garage tool, compact, powerful—handles 95% of the press work in the average shop. The Power-Twin may be detached from press—used as portable ram—speeds up pulling and installing jobs 75%, eliminates torque—remote control provides safety. A complete range and variety of Pullers, Adapters and Attachments are available to pull or install sleeves bearings, races, gears, pinions, couplings, etc.



17½, 30  
and 50  
TON  
SIZES

Famous OTC CENTER HOLE Ram permits fast, easy adjustment to the work and interchange from push-puller to sleeve puller to bench press.

## COMPACT, POWERFUL

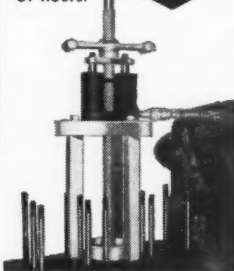
	17½	30	50
Height	5½"	6¾"	9¼"
Width	5½"	7"	8¾"
Thickness	2"	3"	3½"
Ram Travel	2"	2½"	3"
Center Hole	1"-8	1¼"-7	1½"-6
Weight	10 lbs.	23 lbs.	40 lbs.

Amazingly efficient combination of Portable Pedestal Press and 17½ ton Power-Twin Hydraulic Puller. Move it where you want it . . . it's portable.

See your OTC jobber or write to us . . . today!

**OWATONNA TOOL COMPANY**  
321 CEDAR STREET  
OWATONNA, MINNESOTA

Pull or install cylinder sleeves with the OTC Power-Twin Hydraulic Puller in minutes instead of hours.



floor in a continuous strip. The pressure wheel is said to apply the tape smoothly to all types of floor surfaces including crevices and depressions often found in older wood and concrete floors.

## 431. Hex Socket Screws

R. J. Loock & Company, Inc.: A new line of hexagon socket screws and hexagon keys, known as "Lightin'" line has been announced. The manufacturer states that it contains ten each of eight of the most popular set screws and four sizes of keys to fit. The assortment is supplied in a convenient box and refills are packed 25 in a box.

## 432. Screwdriver

The E. L. Dye Company: "Click-It" is the name of a new screwdriver that has a reversible blade which can be adjusted to various lengths. The chuck is pulled back and blade can be "clicked" to the desired length. Both Phillips and slot head blades are on the same shank, which is reversed in the handle. The blade is made of high alloy chrome steel and the handle is made of non-conductive Tenite.

## 433. Convertible Cover

States Development & Mfg. Company: The convertible cover-  
(Continued on page 108)



*Allied A.P.C.*  
American Brakeblok

BALKAMP

Belden

BRIDGEPORT

BRIGGS

BROWN LIPE

CELORON

DETROIT

DITTMER

DUCKWORTH

ECHLIN

Federal

*Allied* GRAPHO

MARTIN-SENOUR

MicroTest

Modac

Monmouth

New Britain

*Allied* PRECISION

PURITAN

RABITAN

*Allied* RAYMOND

Soundmaster

STANDARD

Spicer

Thomson

TRICO

UNITED

*Allied* WISCONSIN

ZOLLNER

# Use this N.A.P.A. Poster



when you  
**Change Over**  
remember to  
**Check-Up!**

- ✓ Electrical System ✓ Brakes
- ✓ Motor and Clutch ✓ Safety Devices
- ✓ Cooling and Exhaust Systems
- ✓ Chassis and Shocks ✓ Accessories

AS ADVERTISED IN **POST** AND **Collier's**  
Quality assured by the nation's largest independent parts organization

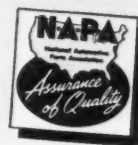
## —to get your full share of the Fall Service Business

When your customers pull in for pre-winter service, sell a car-protecting, profit-making *mechanical checkup* along with the winter lubricants and anti-freeze! Ask your NAPA Jobber for one of the fall service posters shown above. Display it prominently on your wall or window. Use it to remind every customer that your shop is headquarters for the

complete changeover and checkup service nationally advertised by NAPA in Collier's and The Post. There's no charge for the poster. All your NAPA Jobber asks is that you remember: For fast service on finest quality parts and supplies, for cars and trucks of all makes and ages, "Your NAPA Jobber is a Good Man to Know!"

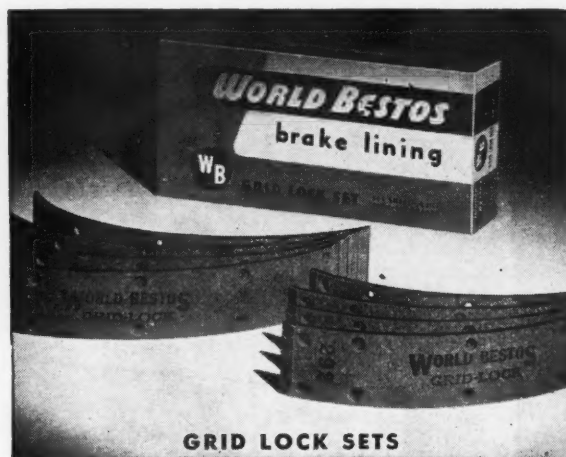
NATIONAL AUTOMOTIVE PARTS ASSOCIATION • DETROIT 1, MICHIGAN

*Your NAPA Jobber  
is a Good Man to Know!*





# **WORLD BESTOS** **FIRST for steady.**



## **Take Advantage of These Exclusive ACE-HIGH DEALS for Car Dealers and Independent Repair Shops**

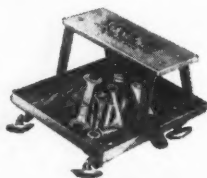
Get started with World Bestos NOW . . . and get absolutely free one or more of these fine premiums. Only World Bestos offers Ace-High Deals!



**Easy-Roll COMFORT CREEPER . . .**  
given with each order for any 25 sets of World Bestos Lining. Regular \$8.75 Gi-Gr-Nite value. Postpaid anywhere in U. S.

### **"Gi-Gr-Nite" LITTLE JOE . . .**

given with each order for any 20 sets of World Bestos Brake Lining. A must for brake work. Regular \$7.65 value (tools not included). Postpaid anywhere in U. S.



### **Personalized ZIPPO LIGHTER . . .**

given with each order of any 12 sets of World Bestos Brake Lining. Engraved with your exact signature in color. Regular \$4.60 value. Postpaid anywhere in U. S.



**Ask your World Bestos Jobber about these deals . . . or write direct to World Bestos**

## **Your World Bestos Your Brake Lining and**

**Prescribed Friction Sets . . .** for passenger cars, commercials, taxis and trucks. Full molded, highest quality lining engineered for each make and model vehicle.

**Grid Lock Sets . . .** top quality Wireback molded sets for all popular cars, commercials and light and medium trucks. A must for complete brake service.

**Bonding . . .** both Prescribed, Friction and Grid Lock are available as undrilled, unchamfered, packaged sets to be used with World Bestos Pyrobond Film. Unexcelled bonding results for passenger cars and trucks. Bonded shoe exchange service available from World Bestos' Warehouses and Jobbers.



**Get it from Your World**

# **WORLD**

# BRAKE LININGS and BRAKE BLOCKS consistent quality

★ Every World Bestos Brake Lining is specifically designed to meet U. S. Government Bureau of Standards Specifications HHL-361-A.

Its consistently high quality is due to the strict production and quality control that is maintained in the World Bestos plant . . . the most modern, most efficient plant in the brake lining industry.

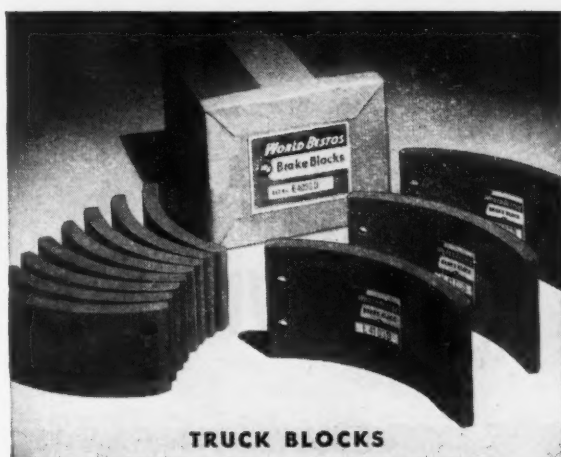
That's why you're always sure of getting exactly the right fit, the same long wearing qualities, the same braking efficiency and customer satisfaction every time you install World Bestos.

## Jobber Can Supply All Block Needs . . .

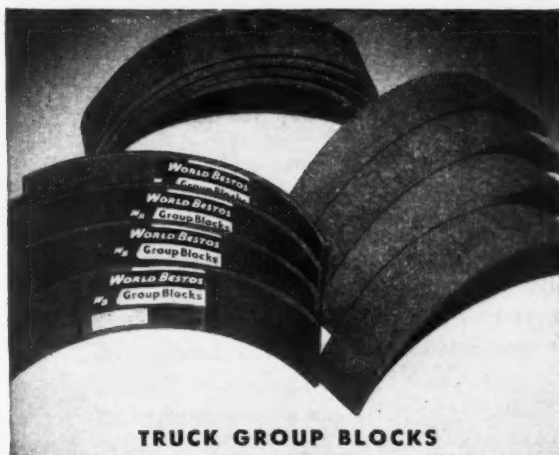
**Truck Blocks . . .**  $\frac{1}{2}$ " thickness and over, in a selection of compounds for medium, medium high and medium low friction . . . and in combinations to meet heavy-duty conditions quietly with a minimum of fade and drum wear.

**Truck Group Blocks . . .** Undrilled, heavy-duty segments in a variety of sizes that will service thousands of different truck and bus models back to 1933. High or medium friction. Dependable performance guaranteed.

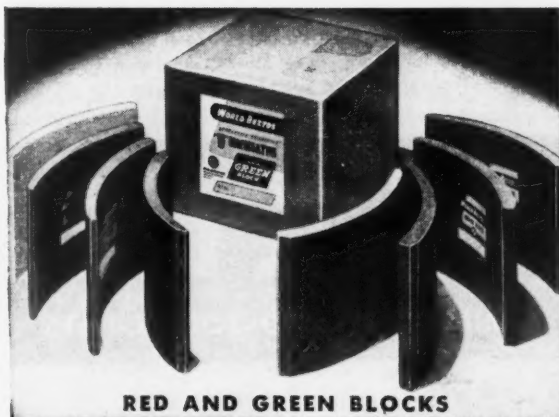
**Red and Green Blocks . . .** High friction, guaranteed No-Fade "J" Combination Block Sets for heavy-duty trucks and trailers in extremely severe service; guaranteed Noise-Proof, No-Fade "U" Combination Block Sets for Buses. Both combinations effectively eliminate glazing and reduce drum heat-checking.



TRUCK BLOCKS



TRUCK GROUP BLOCKS



RED AND GREEN BLOCKS

Bestos Jobber . . .

**BESTOS**

NEW CASTLE  
INDIANA



all is a vinyl plastic cover with an elastic bottom, designed to cover a convertible when the top is down. It covers from the windshield to the back booth and down to the doors, so that if the owner wants to let the top down while the car is unattended, there is no danger of rain getting into the inside of the car. It can also be

used to protect the canvas top when it is up. One model is said to fit all makes.

#### 434. Hose Dispenser

**Gates Rubber Company:** Automobile heater hose is now being shipped by this firm in a new type double duty corrugated container. The unit functions as a dispenser



tainer. The unit functions as a as well as a basic shipping container which protects the hose. The hose can be uncurled and pulled out through an opening in the center of the hood. A measuring rule is printed on the side and holes in the carton are provided to show how much unused hose is left to help the shop in reordering in advance.

The dual purpose container is made by Gaylord Container Corporation.

#### 435. Touch-Up Gun

**Black Mfg. Company:** A lightweight paint touch-up gun has been added to the Black Arrow Paint Spray Equipment line. The gun is designed to spray light fluid such as thin lacquers, paints, and chrome protective coating.



The gun will operate with as little as four pounds pressure. The gun body is made of aluminum and all other parts made of brass. There is only one moving part, the manufacturer reports. The gun is equipped with an air regulator which is said to regulate the flow of material.

**"VIXEN" FILES ARE MADE ONLY BY HELLER**

**An expert in no time  
...with a "VIXEN"!**



**For a "VIXEN" is easy to use!**

Almost anyone can become an expert refinisher quickly.

The uniform, deep, curved teeth—milled to a sharp cutting edge—shear welds and high spots to a sleek, bright finish. You'll never be troubled with tracking, scratching or grooving. Because of its self-cleaning gullets, a "VIXEN" won't load up or clog.

Ask your jobber about the popular babbitt file as well as other "VIXENS."

#### HELLER BROTHERS COMPANY



A New Jersey Corporation  
America's Oldest File Manufacturer  
NEWCOMERSTOWN, OHIO

#### Easy to Identify "VIXEN" By the White Envelope

For your own protection against imitations, look for "VIXENS" in factory-sealed white envelopes, packaged in a white carton.



Handy holder easily curves "VIXEN" to fit surface. Only a "VIXEN" can be resharpened again and again.



We're handing you the *right* "kind of a line!"



It means more sales, more profits for you and the finest kind of piston ring service for your customers. Check its features. You'll see why.

# American Hammered

## PISTON RINGS and

# Power-Plus Service



American Hammered Automotive Replacement Piston Rings are designed to combat every type of engine condition. Whether the problem is reducing blow-by, checking

excessive ring wear or some other ring, piston or cylinder trouble, American Hammered Piston Rings do the job best. Try them and see.

## KOETHERIZING

MORE PISTONS HAVE BEEN RESIZED BY KOETHERIZING THAN BY ANY OTHER METHOD  
This famous, 17 year old process of piston resizing tops the field in accuracy and permanency. Look at the method and you'll know why.



Stresses have collapsed piston by pushing skirt inward, causing piston slap and ring wear.



Inside of piston skirt being peened with shot at the rate of 16,000 a second, causing rapid, accurate expansion to within a half a thousandth of an inch.

Resizing is finished in seconds. And, because Koetherizing takes place when metal is cold, the piston will never collapse again. In fact, it will actually expand to compensate for wear.

## GI-60 GROOVE INSERT

The GI-60 Groove Insert forms a heat-treated, spring steel shield which resists wear and pounding of the top land better than either aluminum or cast iron. This insert is locked permanently in place and affords perfect seating for the new ring. It's thousands of miles of extra life for a piston. Here's how it works.



New ring in worn groove    Groove widened  $\frac{1}{2}$ " and recessed for GI-60    GI-60 installed and locked in recess    New ring installed in GI-60 reconditioned groove

## DRY FILM LUBRICANT

(ANTI-SCUFF COATING)

Dry Film Lubricant furnishes outstanding protection against serious friction damage and allows a good, snug fit, without danger of scuffing during the critical break-in period. Dry Film Lubricant offers positive, visual proof of Koetherizing.



American Hammered Piston Rings and Power-Plus Service, the most complete piston ring service package in the field

## American Hammered

AUTOMOTIVE REPLACEMENT DIVISION

500 SANFORD STREET, MUSKEGON, MICHIGAN  
Manufacturers of American Hammered Automotive Replacement Piston Rings



## G.M.'s Air Conditioning

Tests on General Motors' automotive air conditioning unit have shown that the heat inside a car that has been standing in the sun at high temperature can be reduced to a comfortable driving temperature within a distance of six city blocks and that within a mile and a half driving distance temperatures are very appreciably

reduced. The new system, which is expected to be available on Cadillac and Oldsmobile in 1953, provides adequate cooling even at low speeds.

The principal mechanism of the air conditioning unit will be located upon the shelf in the rear of the trunk compartment. A single control will be placed on



The compressor which pumps Freon, a non-toxic refrigerant, is shown here. This pump runs directly off engine; blowers which distribute cooled air are electric.

the dash of the car and temperature can be maintained at a desired level by setting a thermostat.

The air conditioning device will be particularly desirable not only in hot weather but also in dusty areas or under windy conditions because the car can be driven in any temperature with the windows closed. While the car will thus be automatically cooled, wind noise and drafts in the car are substantially reduced.

The basic principle of the new system is the same as the cooling systems in offices and on railroad trains. A rotary compressor is mounted on the engine. A completely sealed refrigeration unit, using non-toxic Freon, is mounted on the shelf in the trunk.

**IF... YOU'RE A MECHANIC OR SERVICE MAN**

**DON'T BE WITHOUT**

# LIQUID WRENCH

"IT  
MELTS  
THE  
RUST  
AWAY"



It's one of the handiest tools you can have in your tool box. It makes tough jobs easy.

LIQUID WRENCH is a powerful blend of fast-acting and super-penetrating solvents that frees "frozen" or rusted parts in a jiffy. Quickly dissolves or loosens rust, corrosion, scale, varnish, gum, or paint.

For a thousand uses  
... it will save time and temper.

LIQUID WRENCH is one of the family of world famous SOLDER SEAL products for the automotive trade.



**RADIATOR SPECIALTY COMPANY**

CHARLOTTE, NORTH CAROLINA

RADIATOR SPECIALTY COMPANY OF CANADA, LTD.



## Kaiser Group to Aid K-F Refinancing

There is considerable activity at Kaiser-Fraser in the field of additional financing, including a rumor of a merger with another independent automobile company. The latter possibility, however, is being discounted in the industry. Most recent financial activity involves a possible offering of a \$25 million to \$30 million security issue underwritten by Henry J. Kaiser Co., a holding company owned by Henry J. Kaiser, his family, and associates. The exact amount of the proposed issue and the type of securities have not yet been defined, but the revenue derived would be used to strengthen K-F's position.





**MONEY CAN'T BUY ASSET OF COMMERCIAL CREDIT FINANCING, SAYS DEALER**—Mr. Buddy Ne Smith, owner of Ne Smith Motors, Cochran, Ga., says, *"My long-time connection with COMMERCIAL CREDIT convinces me that a business relationship with a really good finance company is an asset no amount of money can buy. The dealer's security and profit rest upon your ability to get back the money tied up in car financing—that's why I particularly appreciate your fine collection service. Rest assured that I will utilize COMMERCIAL CREDIT service that has been so satisfactory in the past."*

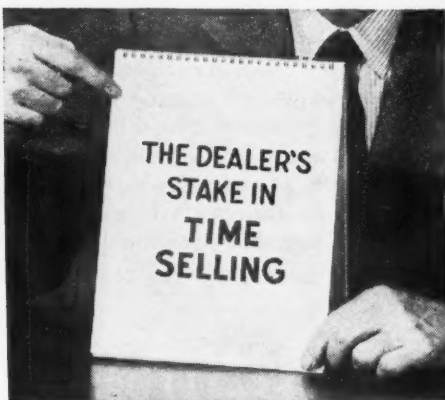


**COMMERCIAL CREDIT PLAN USED FOR 30 YEARS**—Myers Motor Company, Inc., Norristown, Pa., has used the COMMERCIAL CREDIT PLAN for so long that Mr. Roy W. Marberger, President, does not recall how financing was handled previously. Mr. Marberger feels that COMMERCIAL CREDIT's extensive national advertising helps build his business by familiarizing customers with the Plan and all its advantages. He says, *"The fact that we have used it for over thirty years is proof enough that we are more than satisfied with the COMMERCIAL CREDIT PLAN."*

## YEAR AFTER YEAR—Commercial Credit financing is complete, competent, dependable



**COMMERCIAL CREDIT DOES ITS LEVEL BEST TO HELP DEALERS**—The many advantages of the COMMERCIAL CREDIT PLAN are praised by many dealers as being the key to more profitable operation. COMMERCIAL CREDIT offers you a complete financing package—from factory drive-away, wholesale and demonstrator plans down to the last detail of retail financing, collection and prospect follow-up. Customers benefit, too, through Automatic Car Insurance, Life Insurance, Hospitalization, Bail Bond and Nationwide Service.



**ASK TO SEE THIS STUDY**—This interesting study analyzes the time-sales market, shows how the COMMERCIAL CREDIT PLAN may help you keep profits when new car deliveries are down. Write, wire or phone your nearest COMMERCIAL CREDIT office, and one of our local representatives will be glad to show it to you at no obligation.



**COMMERCIAL  
CREDIT  
CORPORATION**

A subsidiary of Commercial Credit Company, Baltimore  
... Capital and Surplus over \$125,000,000 ... office  
in principal cities of the United States and Canada



# Machine Against Muscle

THE STORY OF WHY A FAMOUS COMPANY  
SEES FIT TO TAKE A NEW NAME

In 1924 the dream of a man named Joseph W. Sullivan was realized in a revolutionary new tool that was to take the industrial world by storm. The portable power saw was born and a young company was off to a flying start.

Inevitably, the success of this new power tool attracted imitators, brought others to the field. In spite of this, Skilsaw, Inc., maintained a leadership which continues to keep it *first* in the field.

With this remarkable growth came stronger and stronger demand from *all* industry for *other* kinds of power tools built with SKIL Quality, *other*

ways to replace muscle with machine and do jobs better, with less work in less time. Skilsaw, Inc., has answered this demand—now offers more than 160 different models of portable power tools, each one an example of the finest engineering and quality in the field—SKIL Quality!

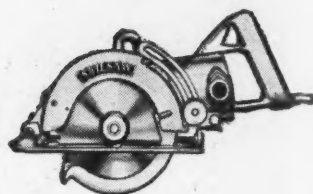
So it is with justifiable pride that we now alter a corporate name we have in simple fact outgrown. Hereafter, the company long known as Skilsaw, Inc., will be known as SKIL Corporation, the name to be remembered in the manufacture, sale and service of portable power tools.

## SKIL Corporation

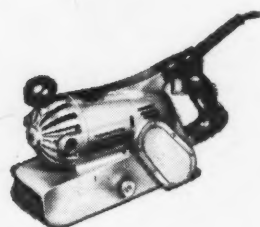
*formerly SKILSAW, Inc.*

5033 ELSTON AVENUE, CHICAGO 30, ILLINOIS

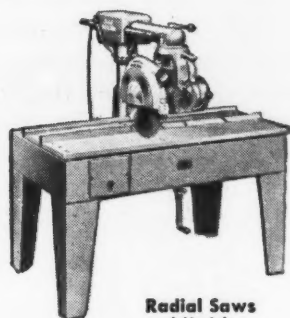
BOTH SKIL AND SKILSAW WILL CONTINUE TO BE USED AS TRADEMARKS



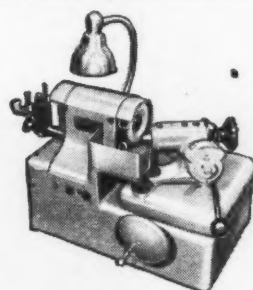
Saws  
10 Models



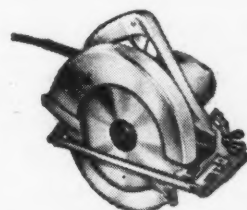
Belt Sanders  
5 Models



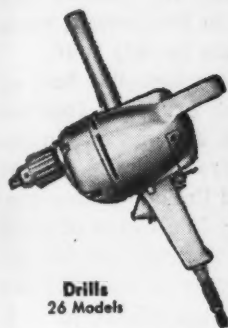
Radial Saws  
4 Models



Valve Refacers  
3 Models



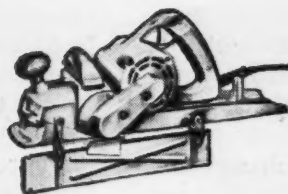
Saws  
4 Models



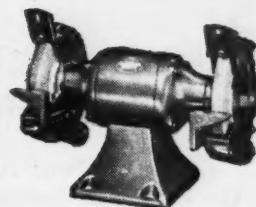
**Drills**  
26 Models

# SKIL

PORTABLE TOOLS



**Plane**  
1 Model



**Bench Grinders**  
7 Models

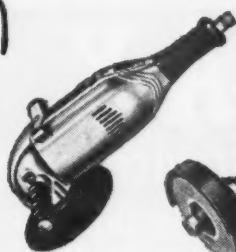
**BESIDES SAWS . . . 26 OTHER TOOLS AND**



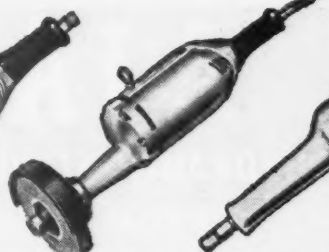
**Oscillating Sander**  
1 Model



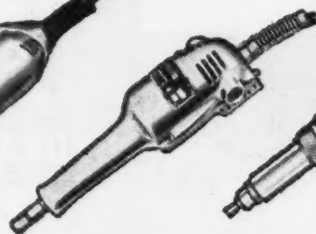
**Floor Sanders**  
2 Models



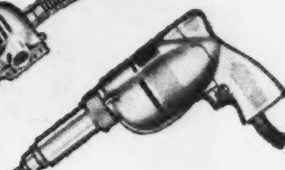
**Disc Sanders**  
6 Models



**Portable Grinders**  
5 Models

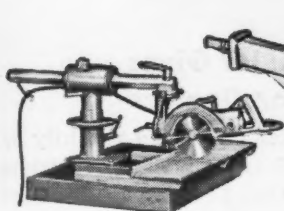


**Hand Grinders**  
3 Models

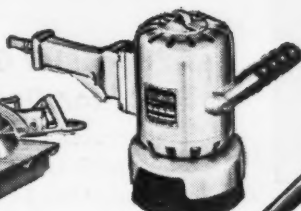


**Drivers and Runners**  
20 Models

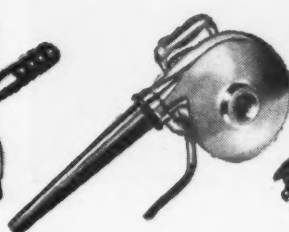
**MORE THAN 150 DIFFERENT MODELS**



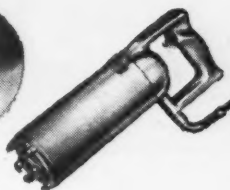
**Radial Supports**  
3 Models



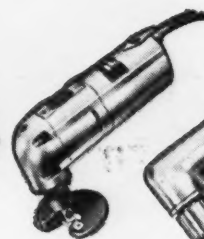
**Polyphase Grinder**  
1 Model



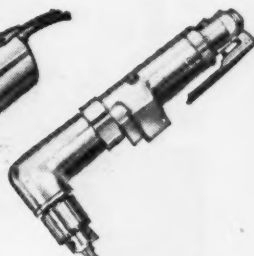
**Blowers**  
5 Models



**Electric Hammer**  
1 Model

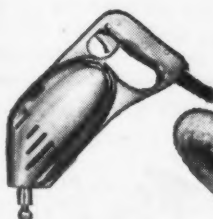


**Shears**  
1 Model

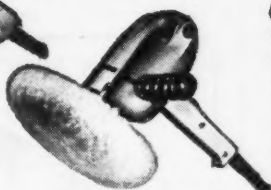


**Pneumatic Right Angle  
Drills & Drivers**  
6 Models

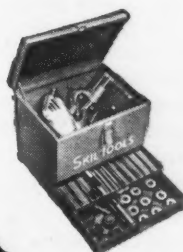
**FOR EVERY INDUSTRY**



**Valve Seat Grinders**  
2 Models



**Automobile Polishers**  
2 Models



**Valve Seat  
Grinder Sets**  
4 Models



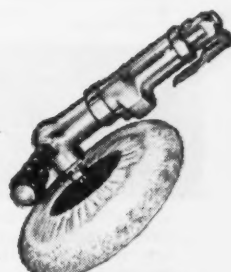
**Pneumatic Hammers**  
12 Models



**Pneumatic Drills**  
7 Models



**Pneumatic Drivers  
and Runners**  
12 Models



**Pneumatic  
Sanders and Polishers**  
2 Models

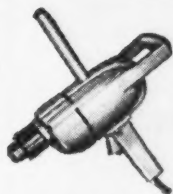
**INCLUDING THESE SKIL HOME SHOP TOOLS**



**Belt Sander**  
1 Model



**1/4" Drills**  
2 Models



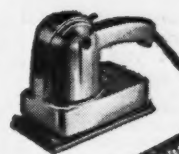
**1/2" Drills**  
2 Models



**Kits**  
3 Models



**Sander Polisher**  
1 Model



**Oscillating Sander**  
1 Model



**Hedge Trimmer**  
1 Model



## Plymouth Plane Contest Winners Announced

Eleven-year-old Chris A. Hanson displayed all-around flying ability to gallop off with top honors in Plymouth Motor Corp.'s Sixth International Model Plane contest.

Chris, who was co-champion in the Freshman division a year ago, was named high point champion of the meet, and at the same time claimed undisputed title to the

championship for Freshmen. He unseated former champion Fred W. Sage, III, an eight-year-old from Independence, Mo., who shared top Freshman honors with Chris last year and who ruled undisputed as the contest's top point winner two years ago.

In a close battle for points throughout the four days of flying, Chris edged Freddie out by a single point, 36 to 35. It was balance in all events, rather than spectacular performance in any

one, which won the honors for young Hanson. He placed and earned points in five events, while Sage took points in only four.

A huge victory banquet held on Bob-Lo Island brought together leaders in the automobile industry, high officers of the Navy and Air Force, and the 500 young contestants, their families and their mechanics. A total of 103 beautiful trophies, some of them as tall as the winners, and \$4,725 in U. S. Savings bonds were presented to the boys and girls who sat in the winners' circle and were the special banquet guests.

## Philadelphia PAR Group Meets to Plan Action

PAR (Project-Adequate Roads), an off-shoot of the Highways Users Conference, held a meeting recently in Philadelphia with the objective of initiating an action program in that area. R. S. Wilson, vice president of the Goodyear Tire & Rubber Company, delivered the principal address.

## API Booklet Gives Facts for Dealers

A booklet published recently by the American Petroleum Institute entitled "Stop Gasoline Losses" has some interesting facts for the operator of any gas pumps. Printed in two colors, it has sixteen pages packed with interesting facts like the following: "Two leaking drops per second add up in a year to 1350 gallons—a lot of profit dollars to leak away."

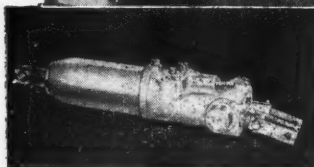


"I don't know nothin', Bub, except it's \$95.75 C.O.D.!"

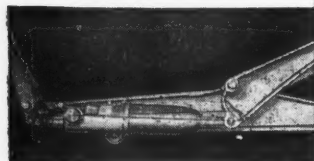
# AJAX

## HYDRAULIC SERVICE JACKS

... FOR EVERY JOB IN THE SHOP  
... FOR YEARS OF  
TROUBLE-FREE SERVICE



**TROUBLE-PROOF POWER UNIT**  
Heart of Ajax No. 2784 is this precision engineered, ruggedly-built hydraulic power unit. Every vital part is heat-treated.



**DIRECT LINE DRIVE**  
This exclusive feature of the No. 2784 assures trouble-free performance by eliminating side strains on the power unit which cause leakage of jack fluid.



**SPEEDY, FACTORY-QUALITY REPAIR SERVICE**  
8 Direct Factory Branches and 9 Authorized Service Stations staffed with factory-trained specialists provide fast, preventive maintenance and repair service with new jack guarantee.

● Here's your one source, your dependable source, for every jack need. Ajax gives you the right model, with advanced features, for every lifting job.

Take the fast, rugged hydraulic service jack, No. 2784—designed and built for long-lasting, dependable operation. Its 4-ton capacity handles passenger cars and all but the heaviest trucks and tractors. Here is every feature needed for speedy, efficient work... ease of operation... ample chassis length for dollying... positive-locking, 3-position handle adjustment... gravity centered balance for quick positioning.

For quick driveway, shop and curb service, No. 2767—a 1½ ton hydraulically operated jack—provides outstanding value at surprisingly low cost.

In times like these, it's doubly important that you have good, sturdy, dependable lifting equipment—quality jacks that will outlive the "emergency." With Ajax, you get long, trouble-free service with minimum maintenance expense.

AJAX AUTO PARTS COMPANY • RACINE, WISCONSIN



AJAX... THE "COVERAGE LINE" OF QUALITY JACKS

..for cars...for trucks...for buses...for tractors

FULL GASKET SETS

VALVE GRINDING SETS

HEAD GASKETS

INDIVIDUAL GASKETS

here's your  
**Job-Tested  
Team**

for high compression  
engines

# FEL-PRO FULL LINE OF GASKETS

and ~~FEL-PRO~~ INSTALLATION KNOW-HOW

You can't beat a Fel-Pro Gasket for use on today's high compression engines. And when you install Fel-Pro Gaskets using the Installation Know-How "Tips" in the FREE Fel-Pro GASKETING MANUAL, it adds up to a "Job-Tested Team" that makes a praise-winning job every time.

For many years Fel-Pro Engineers have kept pace with the latest developments in gaskets for modern automotive engines by working closely with production engineers in the leading car factories. To overcome the ever increasing demands of greater heat and pressure in high compression gasoline and diesel engines,

Fel-Pro has produced gaskets unequalled for rugged strength, durability and sealing qualities.

No doubt about it—you've got a real "Job-Tested Team" when you install Fel-Pro Gaskets and use the Installation Know-How contained in the FREE Fel-Pro Gasketing Manual.

You make every job a **Praise-Winner** with this "Job-Tested Team"



**Little Drip says:**  
"High Compression or not . . . no gasket is better than the installation . . .  
no installation is better than the gasket . . . Do the job right—Use Fel-Pro !!"



**FREE—GASKETING MANUAL**  
Helpful gasketing "tips" gained from Fel-Pro's many years' experience with leading automotive factories and mechanics everywhere. See your Fel-Pro Jobber for your FREE copy or write TODAY to:

**FELT PRODUCTS MFG. CO., 1521 Carroll Ave., Chicago 7, Ill.**  
FAST SERVICE ASSURED By Warehouses Near You . . . ATLANTA, DALLAS, BOSTON, NEW YORK, LOS ANGELES, OAKLAND, PORTLAND



**CASH IN** on Fall  
Changeover Time with  
**Fel-Pro WATER  
OUTLET GASKET  
DISPLAY  
ASSORTMENTS**

Order NOW from your Jobber:  
Assortment WO-9— for all popular cars.  
Assortment WO-18— service for all cars.

**YOU'RE THE RINGMASTER when you  
give your customers "new engine"  
performance with the new Pedrick**

# FORMFLEX



**CASH IN ON YOUR PEDRICK JOBBER'S**



**"BLUE PLATE SPECIAL"**

Do more engine overhaul business without  
adding a cent to your shop overhead! Use the  
selling tools your jobber provides to *get* more jobs.

Make a profit on his precision machine shop  
service and free your mechanics to get jobs

out faster. To be sure of  
top "new-engine" performance  
and complete car-owner satisfaction,  
*specify* Pedrick Formflex Engineered  
Sets in every "Blue Plate Special!"

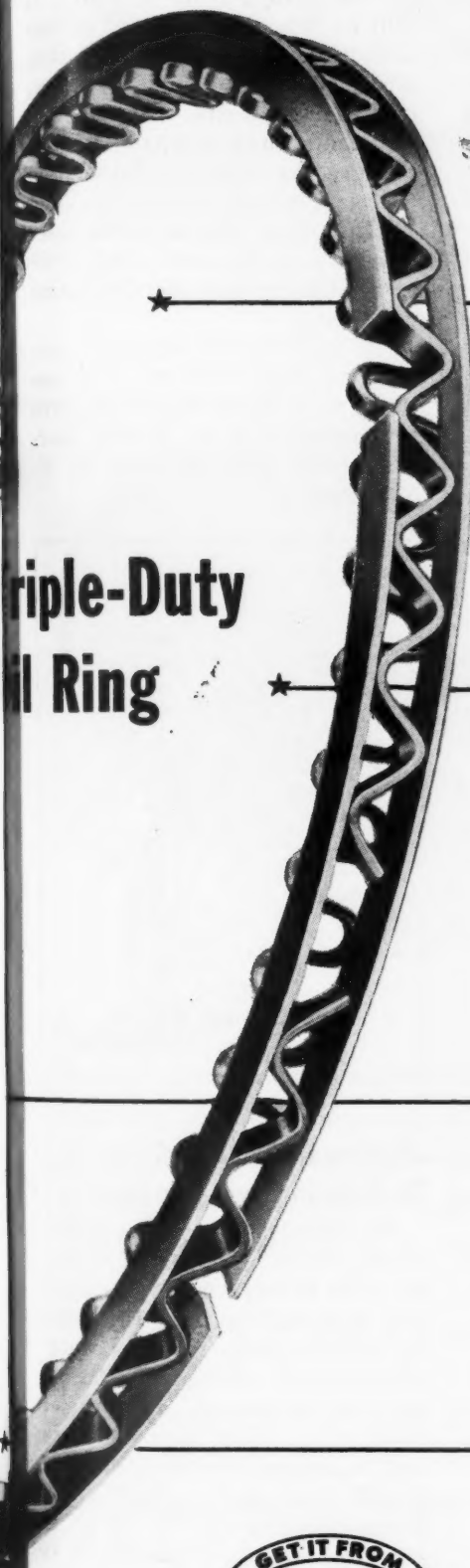


There's a  
"NEW ENGINE"  
in every box

***Pedrick* FORMFLEX ENGINEERED SETS**

WILKENING MANUFACTURING CO., Philadelphia 42, Pa.  
In Canada: Wilkening Manufacturing Co. (Canada) Ltd., Toronto

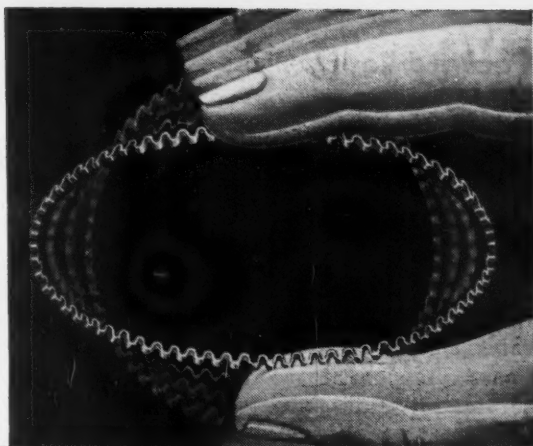




# Triple-Duty Oil Ring

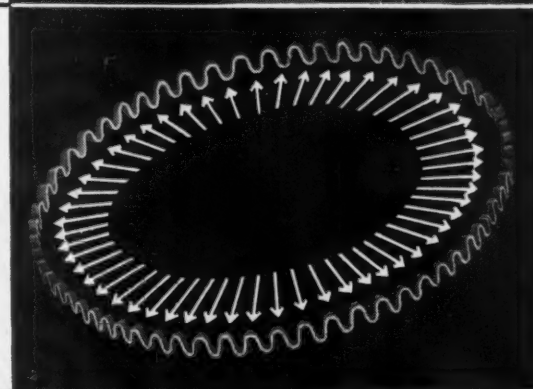
## AMAZINGLY CONFORMABLE

Made possible by a revolutionary new type of expander—The Pedrick Equalizer. Gives even contact with cylinder *all around*.



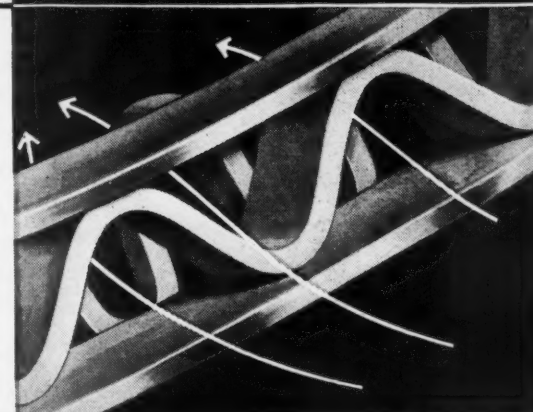
## UNIFORM PRESSURE DISTRIBUTION

The "Equalizer" gives equal outward pressure all around, with more perfect seal—better oil control—far longer life.



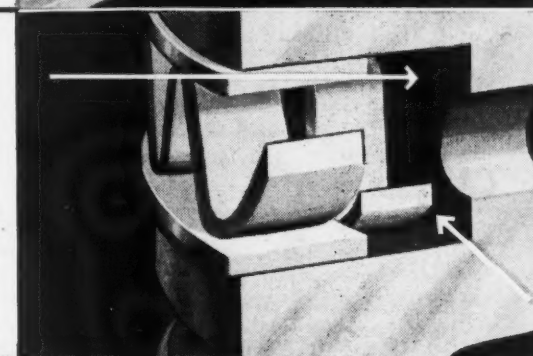
## ALMOST TRIPLE OIL DRAINAGE

Because of 2½ times more open area provided by the Equalizer and spacer. Eliminates any chance of plugging.



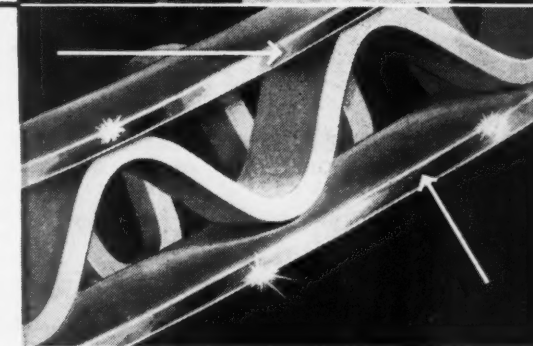
## INDEPENDENT OF GROOVE DEPTH

The Equalizer does not rely on contact with bottom of piston groove for its pressure or tension.



## CHROME FOR LONG LIFE

The faces of the two steel rails are chrome plated for 2 to 4 times longer life.



PATENT APPLIED FOR



## Packard Reorganizes Under New Head

The outline of Packard's reorganization under its new president, James J. Nance, is beginning to take shape. A new marketing department has been set up, consisting of an Eastern and Western division under assistant general sales managers, a special Pacific Coast division, three marketing service divisions at the Detroit headquarters and two special divi-

sions for export sales. Frank Frost, formerly with Oldsmobile, has been named assistant general sales manager in charge of the Western zone.

C. E. Briggs, who formerly held the title of general sales manager, has been named marketing manager, a new position to include product and market planning, car distribution, parts and accessory merchandising, sales analysis and organization, and field business management.

A headquarters division dealing with service has been set up to be headed by J. A. Carr, who has been service manager for Packard. It will be responsible for all service activities, including promotion, technical training and literature, customer relations, warranty adjustments, and company service garages. An owners' relations department will be headed by Hugh W. Hitchcock, who has been associated with Packard since 1920 in advertising and merchandising positions.

National advertising, sales promotion, sales training, and national used car merchandising will be incorporated in a new merchandising division under R. W. Straughn.

*Barnett Says:*

# You're Paying For A DRUM-Dokter Why Not Own One?



Farmed-out labor eats profit earned by your service sales...

A DRUM-Dokter automatically machines drums without attendance... frees skilled labor for other work.

**CASH IN NOW...  
LET US PROVE IT!**

LOOK at the chart below—  
SEE how you are paying for a DRUM-Dokter... someone else owns.

**GET ONE FOR YOURSELF**

*DRUM Dokter*  
*Greatest Profit-Maker  
Of All Service Equipment!*

### PROFITS ON DRUM MACHINING ALONE

IF YOU MACHINE DRUMS ON	Cars Per Week	Income Per Year	Gross Profit At 92%	Profit Buys DRUM-Dokter in Less Than:
1		\$ 312.00	\$ 287.04	16 Months
3		936.00	861.12	5-1/3 Months
5		1560.00	1435.20	3-1/5 Months

**BARRETT EQUIPMENT CO.** World's Finest Brake Service Equipment  
21st & Cass St. Louis 6, Mo.



## Mexican Pan-Am Race To Run in Two Classes

The Third Mexican Pan-American Race will be run from November 19th through 23rd. The route this year will be from El Ocotil to Ciudad Juarez—from the southern border to the northern boundary of Mexico—a distance of 2,093 miles. This year the race will be divided into two classes, a sports class and a stock class. Prizes totaling \$85,579 in U. S. currency have been posted. It is expected that the stock class will be dominated by American entries, but the sports class is wide open with the recent entry of two German Mercedes-Benz 300 S1's, and the usual galaxy of European car-racing teams.

# ***sell Soundmaster***

MUFFLERS THAT  
FIT ALL **3** WAYS

***Soundmaster***

● For each make and model you service, your NAPA Jobber can supply a Soundmaster Muffler engineered to *fit that car*—all three ways. For fast, high-profit installations, precision MECHANICAL fit! For long-lasting, full-range noise control, Soundmaster ACOUSTICAL fit! For low back pressure and high engine output, engineered HORSEPOWER fit! Next muffler job you have, install the muffler that really fits the car and all its requirements. Install a Soundmaster!

DE KOVEN MANUFACTURING COMPANY • RACINE, WISCONSIN

## ***Soundmaster***

MUFFLERS, PIPES, ACCESSORIES



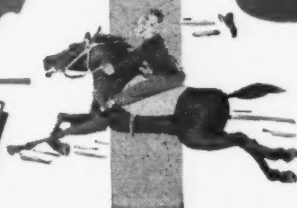
### **1 Mechanical Fit**

Exact and uncompromising  
—for fast installations on  
each make and model



### **2 Acoustical Fit**

For full-range noise control  
—"comfort-level" quiet at  
all speeds and loads

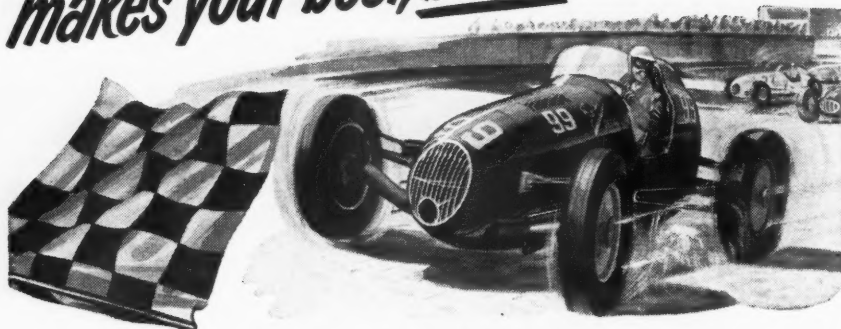


### **3 Horsepower Fit**

Always within correct back  
pressure limits—for all the  
power the car can deliver



*"Competition  
makes your best, better!"*

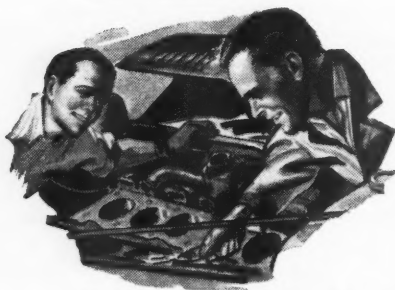


**... says Murrell Belanger**

*A true story—reading time: 1 minute.*

"Racing," says M.B., "teaches you the value of competition. It takes more than a well-tuned car to win. It takes men with heart, brains and drive."

At 16 Murrell Belanger got his first job as a car washer. Slack periods found him helping the mechanic, soaking up engine lore, dreaming of better cars that one day would bring him world fame.



Graduating from the wash rack, he became one of the best mechanics in town, eventually shop superintendent for a large car dealer. After hours, he put together the first of his race cars.

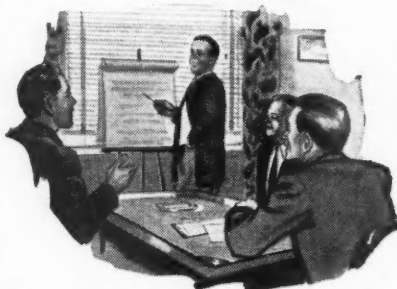
In 1932, impressed by its many outstanding engineering features, Murrell decided Chrysler was the best car made. The firmness of his belief was evidenced in fourteen trips to

Detroit selling himself as a dealer to factory officials.

The dealership brought new appreciation of the value of competition . . . and men. "It was tough going in the depression years. I can't thank the Chrysler field man enough for his faith and encouragement. When my best just wasn't good enough, he'd get me to do better."

It's natural that back in his mind M. B. carried a burning ambition: to win the Indianapolis 500. In 1951 the Belanger blue-and-gold colors set a new all-time record. He had the car . . . and the men. Lee Wallard was at the wheel. And to prove the combination was no fluke, '99 with Tony Bettenhausen driving won the 1951 A.A.A. Championship.

"I welcome competition," says Murrell. "It keeps me doing better than my best to earn the checkered flag at the finish line."



*A booklet of true stories about enterprising men like Murrell Belanger is yours for the asking. Write Chrysler Corporation, Highland Park 3, Mich.*

Dealers in Chrysler Corporation products are selected for their integrity, their merchandising skill . . . and their capacity to serve the ever-growing customer preference for the cars and trucks that exclusively offer the superior values of Chrysler Engineering Leadership.

**Chrysler Corporation**

PLYMOUTH • DODGE • DE SOTO • CHRYSLER • DODGE "Job-Rated" TRUCKS  
**Fine Cars of Great Value**

## Patent Applications Easy to File—Fast

Do you have a new device, turned out in your own shop, that will save hours of troublesome exploring by maintenance crews or simplify the task of engine and body repair? Have you applied for a patent on your invention?

If you have, don't despair of getting action on your application. The U. S. Patent Office made a recent count that showed it had, for the first time since 1946, fewer than 100,000 applications awaiting handling.

Official explanation of the smaller backlog of work is "added efficiency of operation" by Patent Office employees, who granted 46,531 patents in the last complete fiscal year. The number of applications received was 64,992.

Other figures produced by the Patent Office for the same 12 months show: New trademark registrations granted totaled 16,400. Earnings in patent, trademark, and service and publications fees amounted to more than \$5 million. The number of printed copies of trademarks and patents sold was 4,329,169.

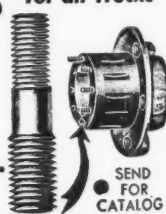
## OVERSIZE

**REAR WHEEL STUDS** for all Trucks

Order from Your Jobber



**CHAMP-ITEMS, Inc.**  
6191 Maple Ave.  
St. Louis 14, Mo.



SEND  
FOR  
CATALOG

**The "Name"  
Makes Sales Easier**



**BONNEY FORGE & TOOL WORKS**  
ALLENTOWN, PENNSYLVANIA

Chilton's MOTOR AGE, OCTOBER, 1952

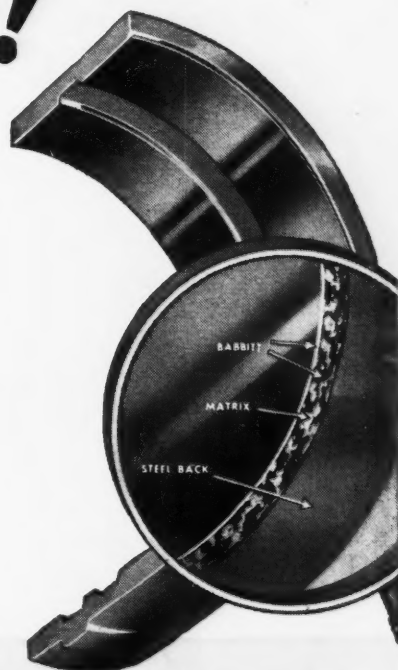
# MORaine

## ...A TRULY GREAT LINE OF BEARINGS!

The Moraine engine bearing line is the proved favorite for *original* equipment use . . . and the *pre-sold* favorite of millions of *replacement* buyers . . . because *all* Moraine bearings are of uniform high quality, made to original equipment tolerances.

In addition to the vast number of cars and trucks on the road using original equipment Moraine bearings, there are Moraine engine bearings for an additional 20 million cars and trucks. That makes a big market for Moraine bearings. Think of what your share of that market can be! Stock Moraine engine bearings now and get your share of this market for a top-quality product.

Leader of the Moraine original-equipment line is the exclusive Durex-100 bearing . . . the bearing that is made to stand up under the heavy loads and stresses of today's high-speed, high-compression engines.



### The Bearing High Compression Demanded

## DUREX-100

Original Equipment on Cadillac, Buick, Oldsmobile, G.M.C.,  
Felixle and Other Leading Makes

### The Durex-100 is 8 Ways Better...

- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| 1. Greater resistance to fatigue. | 5. Stronger bond.                   |
| 2. Increased load capacity.       | 6. Greater resistance to scoring.   |
| 3. Greater conformability.        | 7. Greater resistance to corrosion. |
| 4. Better embedability.           | 8. More durability.                 |

#### THE MATRIX MAKES THE DIFFERENCE!

Steel-backed middle layer (or matrix) of porous copper-nickel is bonded mechanically and metallurgically with babbitt overlay to give Durex-100 increased embedability and greater resistance to fatigue.

#### MORaine ENGINE BEARINGS

A GENERAL MOTORS PRODUCT  A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

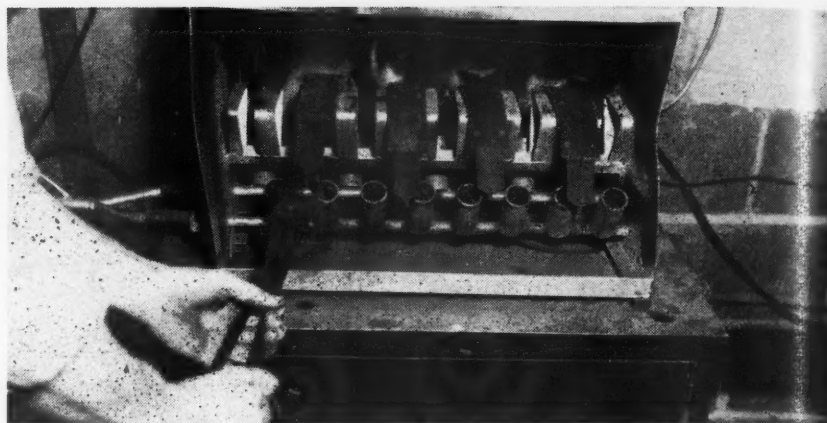
# MORaine PRODUCTS

DIVISION OF GENERAL MOTORS  
DAYTON, OHIO

## Repair Shop Uses LP Gas To Remove Bonded Lining

Taking off old bonded brake linings used to require 20 minutes of hard work per shoe at the Samuel Ridlon Garage, Portland, Maine. But since the installation of a special liquefied petroleum gas burner system last year, the working time and labor has been cut to just one minute per shoe!

This shop had no brake debonding equipment, and the largest



part of the lining was cut away and the rest ground off, a tedious job. Now a complete set of eight shoes can be done at the same time. The shoes are placed over metal supports, and the LP-Gas burners operate like a series of blow torches to melt the bonding cement. In eight minutes the cement is melted and the old lining can be peeled right off.

The machine cost \$45.00 and the installation was another \$55.00, according to Ridlon. The gas used for heating the shoes is piped from storage containers outside the building. Also known as butane, propane, bottled and tank gas, the fuel has a Btu rating of 2500 to 3200 per cubic foot. This compares with city gas ratings of 450 to 1100 Btu's, Ridlon said.

The Ridlon garage building was built in 1949, but wasn't piped for city gas. Since Ridlon installed the LP-Gas system for the brake lining department he can handle 10-15 sets of shoes per day.



# GUMOUT "ON-THE-ENGINE" CARBURETOR CLEANING

## Makes Cars Run Better

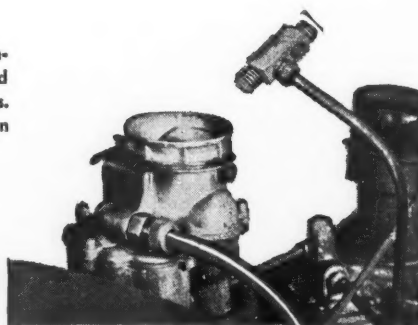
### You can do it in 20 minutes

You can build customer good will by eliminating hard starting, stalling, bucking and rough idling caused by dirty carburetors. It's new business, new profits—from an entirely new, low cost service.

Order GUMOUT from your  
Jobber or send coupon today!



**GUMOUT DIVISION**  
**Pennsylvania Refining Company**  
Cleveland 4, Ohio  
Butler, Penna. Edgewater, N.J.  
Refiners of Penn Drake Petroleum Products  
Since 1880



**GUMOUT DIVISION, Pennsylvania Refining Co.**  
2686 Lisbon Road, Cleveland 4, Ohio **MA-7**

Please send:

- ... Cases of GUMOUT (24 Pints) at \$1.60 per case
- ... Five-gallon pails of GUMOUT at \$5.20 per gallon
- ... GUMOUTERS at \$2.95 each
- ... Additional information

Name.....

Company.....

Address.....

City..... Zone..... State.....

Favorite Jobber.....

MOTOR SALES



"I wish you didn't want a new car so badly sir. I'm dying to high pressure someone!"

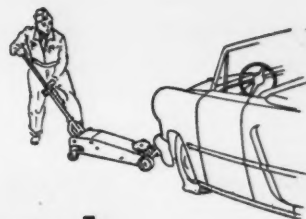


here's why  
you're ahead  
with

**AUSCO**

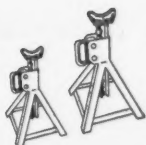
for easier service work

...bigger re-sale profits!



**COMPETITIVELY  
PRICED!**

Investigate Ausco's new lower prices, that give you an edge on competition.



Garage Horses—  
ratchet type... 2 and  
5-ton models.

**HIGHEST QUALITY!**

Every Ausco Jack is made by Ausco... from castings to finely-machined hydraulic pistons... in the most modern jack plants.

**COMPLETE LINE!**

Hydraulic or mechanical... 3/4 to 20-ton capacities... for service use or re-sale.

**PROMPT  
DELIVERY SCHEDULES!**

Complete line of  
Mechanical Screw  
Jacks for truck use—  
Illustrated, 1 1/2-ton  
model with large sled-  
type base and fully-  
enclosed mechanism. 6  
other models also  
available.

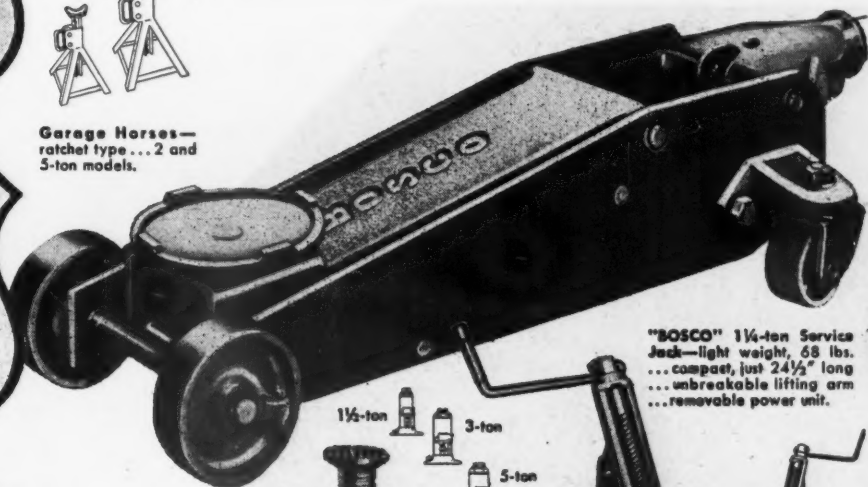


**Friction Bumper Jack**  
—Automatic full-control  
release... one-piece  
malleable iron body  
and load rest. Cap. 1 ton; lift 27".

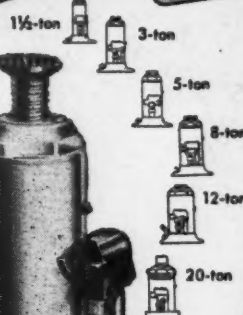
**Ratchet Bumper Jacks**  
—Raise on both up  
and down strokes...  
broad base for easier  
placement. Cap. 3/4  
and 1 ton; lift 32".

**Hydraulic Axle Jacks**  
lifting action starts instantly  
with first stroke... straight-  
line oil flow eliminates dirt-  
trapping pockets... easier,  
smoother lowering at any  
speed... load under complete  
control at all times.

**SAP-LIFT Bumper Jacks**—  
car owner and service models.  
Revolutionary bipod construction...  
minimum of moving parts... low load rest... high  
lifting range (24" & 24 1/2").

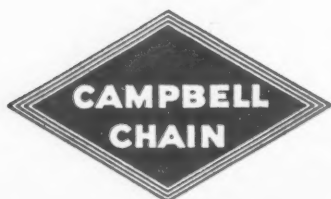


"BOSCO" 1 1/2-ton Service  
Jack—light weight, 68 lbs.  
...compact, just 24 1/2" long  
...unbreakable lifting arm  
...removable power unit.



**AUTO SPECIALTIES MFG. CO., ST. JOSEPH, MICH.**

? how much ?  
**PROFIT** ?  
 ? will you miss next winter ?  
 ? ?



Traffic snarls lasting for hours followed "sneak" snow storms in many cities last winter. Most tie-ups were caused by motorists who *didn't have chains* and couldn't get any!

There's always a chain shortage when sudden storms occur. Don't be caught with your chain supply down! Stock up now on Campbell Lug-Reinforced Tire Chains.

**CAMPBELL**

*Lug-  
Reinforced*



Sell chains as you sell anti-freeze, winter lubrication and heater hose. Make it a point to get a set of Campbell Chains in the trunk of every customer's car... before it snows.

CAMPBELL, a top name in chain, offers you this sure-fire program that makes chains easy to sell before the snow flies.



### BETTER PRODUCT

You can show your customers the extra metal in Campbell's patented Lug-Reinforced construction. This insures better traction and guards against skids and side slips. When you sell Campbell, you sell the safest, longest-wearing chain!



### BETTER PACKAGE

Campbell's modern, colorful, eye-catching package displays well, stores well—keeps chains neat in car trunks. Handy, easy-to-use Chain Applier, at no extra cost, is the sales clincher!



### BETTER SALES HELP

The new 1952 Campbell Merchandising Kit contains display banner, ad-mats, streamers, post cards, island and window display suggestions. Contains plenty of ideas to help you make good money selling Campbell Chains this season and ties you in with Campbell's advertising in national magazines. Get complete details from your jobber.

ORDER YOUR STOCK OF CAMPBELL *Lug-Reinforced* TIRE CHAINS NOW!

CAMPBELL CHAIN Company • Main Office: York, Pa. • Factories: York, Pa., and West Burlington, Iowa

# TIRE CHAINS



# Sell Miracle Power for Winter

**MIRACLE POWER SURE  
KEEPS THAT CAR YOUNG!**



## Don't Let Your Engine Get Old This Winter

Mechanics know that most engine wear occurs in winter. That's because oil is cold, stiff, slow to get around to all moving parts. So you have longer and eventual repair bills. That's why mechanics say, "Use Miracle Power in gas and oil." Miracle Power contains colloidal synthetic graphite in suspension. This graphite forms a breathlike, protective film on engine surfaces . . . lubricates instantly . . . provides a better compression seal.

Result: You keep your engine young—it starts easier, has more power, uses less gas and oil. Protect your car this winter—it may have to last you longer than you think. Try Miracle Power next time you get gas.

THE AP PARTS CORPORATION • Miracle Power Division • 111 AP BLDG., TOLEDO, O.  
Sole distributors of: AP Motor Oil, AP Motor Oil, AP Motor Oil, AP Motor Oil

This sales message  
appears in Post,  
Colliers, True and  
other leading  
consumer publications



At gas stations,  
garages, car  
dealers and all  
Ford, Kaiser,  
Frazer and  
Willy dealers  
75c  
(\$1.00 in Canada)

**Certifies Use of  
Miracle Power  
in 1951 and 1952  
Indianapolis Races**

The AAA certified that the same  
Miracle Power you buy was  
used in the "Leightenberger  
Special" which finished both  
the 1951 and 1952 races.

During races, oil drains into the crankcase,  
eventually leaves very dry. When you start  
it may take up to five minutes before oil  
reaches to all moving parts. Meanwhile, dry  
metal grinding, against dry metal. This  
causes "Engine Ulcers" and, sooner or later, costly repairs.

**Treats the Engine, Not the Oil**  
Prevents "Engine Ulcers" caused by DRY STARTING\*

© The AP Parts Corp., 1952

*Treats the Engine  
Not the Oil*

**PREVENTS "Engine Ulcers" . . .**

© The AP Parts Corp., 1952

# Easier Starting

Mechanics know that light or thinned-out oil does not guarantee easier winter starting. They realize that during long stops oil drains from the engine into the crankcase, leaving parts dry and difficult to move. And they realize that unless the compression seal is good, pressure is so low that gas cannot be heated to a point where it will fully ignite.

To answer these problems, use Miracle Power in gas and oil. Miracle Power contains colloidal synthetic graphite in suspension. This graphite forms a breathlike, lubricating film on all vital engine surfaces . . . gives instant lubrication . . . improves the compression seal. Result: Easier starting . . . satisfied customers.

**AP** *Miracle Power Division*  
**THE AP PARTS CORPORATION**  
1538 AP Building • TOLEDO 1, OHIO  
Manufacturers of: MUFFLERS • PIPES • MIRACLE POWER • dgf 123



CAUSED BY DRY STARTING

## Clearing House . . .

Continued from Page 85

and bearings. Also I aligned the case for warping but it still sticks in high gear occasionally. Especially when it is pulled up and shut off and let in high.

Charles C. Hill,  
Hill's Garage,  
Cantoil, Iowa

**I**N order to prevent this job from sticking in gear, it will be necessary to either overhaul the shifter cover or install a new one. Usually, you find the shifter blocks worn, thereby causing the sticking.

### What Makes Poor Idling In Cold, Damp Weather

Here's a phenomenon that I've tried to have explained. If the weather happens to be damp and rainy or if it is snowing quite hard, the motor on many cars will refuse to idle. This seems to be true only in the above conditions. It makes a car hard to handle, particularly with an automatic transmission.

Perhaps you can give an explanation for this and tell me what can be done for it.

Walter Benz  
468 Lowry Medical Arts Bldg.  
St. Paul, Minn.

**T**HE trouble with your Oldsmobile is quite common here in the East also. It happens to a lot of cars. This is caused by an icing condition on the idle tube in the carburetor and there is very little you can do. Some of the gas companies claim that their gasoline will not ice but we have had no proof one way or another.

If it were possible to deflect a little heat on the carburetor while the car is warming up, that also would eliminate the trouble.

### Rings Freeze in Chrysler Straight-eight Engine

I am having trouble with a 1942 Chrysler Royal 8-cylinder engine. The rings freeze in the grooves after the car has run about 150 hours or 2000 miles. The customer has used various oils and detergents but the rings still freeze in the grooves. I also have two other Chrysler engines that burn valves. New valves have been installed every season. None of these engines run over 140-160 degrees.

Edward McMahon,  
Speedway Service Station,  
Bayonne, New Jersey

**O**N your Chrysler that freezes rings at 2000 miles, your trouble is probably due to excessive blow-by or the rings being fit too tight. This block might also be running hot due to scale and rust accumulations.

On the other two engines, that are burning valves, I would suggest that you allow an extra thousandths of an inch clearance on the tappets. Also replace the water tube in the block.

## Oil Pressure on These Cars Drop on Acceleration

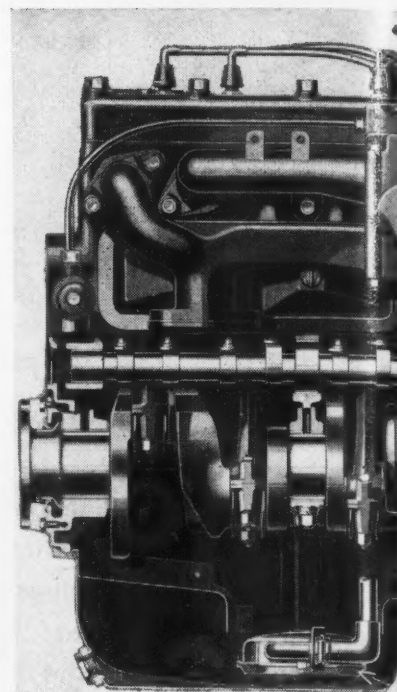
We have had several Dodges in where we find the oil pressure is 40 while driving at a steady speed. When you step on the gas the oil pressure drops. When you take your foot off the gas the oil pressure comes up again.

Would like to know the reason

for this before I start to work on this car.

Max Kluglin  
Smithboro Garage  
Route #17  
Smithboro, New York

THIS could be caused by not enough oil in the crankcase or a leak in the oil pump pick-up. I would suggest removing the oil pan



and the floating screen. Examine the float arm and float for leaks. Also the relief valve might be sticking.



## AMERICAN BOSCH DUAL ELECTRIC WINDSHIELD WIPER



DIRECT ELECTRIC DRIVE, SYNCHRONIZED, TWO SPEED OPERATION OF DUAL ARMS. TANDEM OR OPPOSED WIPING MOTION. AUTOMATIC BLADE PARKING. THERMAL CUTOFF PROTECTS WIPER MOTOR AGAINST OVERLOAD.



TWIN ARCS OF SAFETY VISION FOR CARS, TRUCKS, TRACTORS. ARMS UP TO 12" LONG. BLADES UP TO 14". 30 INCH/LBS. TORQUE PER BLADE. WIPING ANGLE UP TO 118°. FOR 6 OR 12 VOLT SYSTEMS.

Independent of engine vacuum and regardless of speed, load, or acceleration on up-grades, this powerful, direct electric drive Dual Wiper always functions at constant, synchronized speed. No stalling, no stuttering of the wiper blades to cloud good, safe vision of the road ahead, even in the roughest weather.

Ask about Dual Model WWB, a complete packaged unit, designed for swift, easy installation under cowl. Model WWA, for vehicles requiring single Wipers, also available for header mounting. These simplified sales-active conversion units are of rugged, heavy-duty American Bosch construction which guarantees years of trouble-free service. Already in wide use as original truck equipment, these Wipers are today's positive answer to good vision in bad weather and a real opportunity for you to sell greater safety at a profit. Write now for application data on the many passenger cars and trucks you can service. American Bosch Corporation, Springfield 7, Mass.

# AMERICAN BOSCH



Automotive and Aviation Magnets



Generators and Regulators



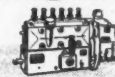
Components for Aircraft Engines



All Electric Windshield Wipers



Ignition Coils



Diesel Fuel Injection Equipment

## Brake Troubles On a 1948 Ford F-7 Truck

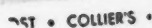
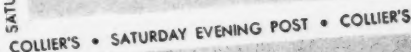
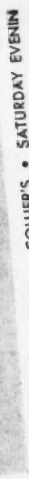
I have a late 1948 Ford truck, Model F-7, with brake trouble which acts as though the brake shoe is too far away from the drum. The shoe has been set close as it can be set without rubbing the drum. It acts as though it had air in line but it has been bled in two places on the power unit and all four wheels, but it doesn't seem to help. The pedal has to be pumped about two or three times before it takes hold.

The front brakes are adjusted in the usual manner on the Lockheed type, but the rear has two eccentric anchors which I turned outward at the top.

Jack Koizumi  
Jack Koizumi Garage  
Waurika, Okla.

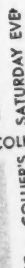
SINCE the brakes have been bled and adjusted with no results, I am inclined to think the trouble is in the master cylinder. I would suggest doing an overhaul job on this unit. Also, when bleeding, start at the wheel farthest away from the master cylinder and work (Continued on page 130)





SATURDAY EVENING POST • COLLIER'S • SATURDAY EVENING POST •

This lively national advertising is but one example of Grizzly's continuous program to help you sell!  
Grizzly Manufacturing Company, Paulding, Ohio.



Specialized  
**BRAKE SERVICE**  
GRIZZLY BRAKE LINING

1503

## Clearing House . . . Continued from Page 128

around to the nearest. You might try using an axle type lining grinder. This tool will insure getting a perfect adjustment on all the wheels.

### Problem on Chrysler Cars Blowing Distributor Caps

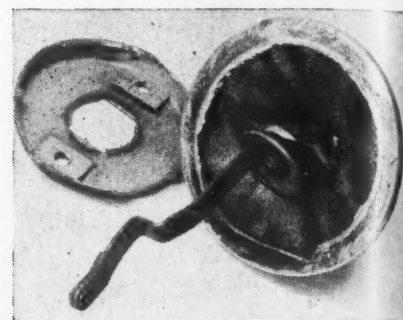
*I have a 1949 Chrysler, a '49 Dodge and two '49 Plymouths.*

*which blow the distributor caps when starting. I have replaced the distributor cap springs. Since these models have no holes in their distributors, I have drilled two holes in each cap. This has not remedied the trouble.*

*William Jeddloh  
New Richland, Minn.*

**T**O prevent the distributor cap from blowing off the Chrysler

products, I would suggest installing new vacuum advance units. The old units have become porous,



# ONE NAME THAT MEANS everything FOR SAFE LUBRICATION

**SOUND YOUR 2**  
100% Pure Pennsylvania  
**PENNZOIL**  
Safe Lubrication

**Cash in  
across the board with  
PENNZOIL**

Pennzoil—accepted from coast to coast as the sign of quality motor oil—offers you a ready market for the complete line of Pennzoil products.

Pennzoil quality satisfies the most exacting customer, answers every lubrication need. It means a fast-selling, low-investment "one-brand" lubrication inventory. And proved Pennzoil merchandising programs, together with consistent nationwide advertising, create extra profit opportunities by developing new customers—steady customers.

Don't miss these profits! Get the facts from your nearest Pennzoil distributor or write us for his name today.

**THE PENNZOIL COMPANY • OIL CITY, PA.**

therefore letting the gas fumes get inside the distributor. Before installing these units, drill a 1/8 inch hole in the back of the unit to provide ventilation.

### Transmission Trouble on This 1951 Ford

*We repaired a 1951 Ford that had the low gear stripped. We installed a new shaft that goes into the clutch disc, the cluster gear and low speed sliding gear. Then we put it together and now when you start it up, it whines in low gear, second and reverse, but high sounds all right. It seems to bind when the four bolts are tightened that hold it to the flywheel housing. When we shim it on the left side and take this whine out, it shifts hard.*

*Hunter Garage  
Waukegan, Iowa*

**I**F the transmission gear turned freely before installing it in the chassis, your trouble is most likely due to misalignment between the flywheel and the transmission. I would suggest mounting the dial gage on the flywheel so it will check the run-out at the housing. Then add shims to the low spots of correct thickness. Sometimes it is necessary to relocate the flywheel at the block.

### Fine Film

An exceptionally interesting technicolor film has been made available to trade groups and other organized groups by Chevrolet. Picture entitled, "American Harvest" is a panorama of industrial activity in the United States. The central theme being the team work of people all over the country—in farms, in mines, in textile mills, in oil fields and in factories.

# ***KELSEY-HAYES***

## **POWER-BRAKING**

***Leads in Safety and Ease of Operation!***



It's the Kelsey-Hayes  
"Vacdraulic" Brake Power Booster  
for "Feather-Touch" Control.

Proven Superior for right  
or left foot low-pedal operation!



ASSURES PROVEN PRODUCTS AT

**KELSEY-HAYES WHEEL COMPANY**  
DETROIT 32, MICHIGAN

PRODUCTS: Wheels—Hub and Drum Assemblies—Brakes—Vacuum Brake Power Units—for Passenger Cars, Trucks, Buses—Electric Brakes for House Trailers and Light Commercial Trailers—Wheels, Hubs, Axles, Parts for Farm Implements.

PLANTS: Kelsey-Hayes Plants in Michigan (4); McKeesport, Pa.; Los Angeles, Calif.; Davenport, Iowa; Windsor, Ontario, Canada.





# Here's why you can have in Johns-Manville **ASBESTOS**

*Now... and*

**I**N SELLING A BRAND of brake linings, you should be able to place your *full confidence* in the manufacturer whose product you offer to your customers.

Behind that brand there should be a line of quality products to meet all your requirements . . . a policy that offers you these quality products at a price that assures you adequate profit . . . a company whose reputation assures outstanding consumer acceptance in your market . . . with sales and merchandising policies that help you build sales . . . a company that is constantly investing and planning for the future.

Johns-Manville has 95 years of experience manufacturing asbestos products and has pioneered in the development of brake linings since early in the century. This "know how" is your assurance that all the foregoing confidence-building assets are inherent in the J-M Friction Material Franchise.



1. Its asbestos—  
Johns-Manville is the  
world's major source of  
supply for asbestos.

2. Its research—  
Johns-Manville maintains  
the world's largest laboratory  
for developing  
asbestos products.

3. Its modern plants—  
Johns-Manville's modern plants and  
quality control methods assure highest  
quality products.

4. Its complete line—  
Johns-Manville  
offers a complete  
line of asbestos products  
of the highest quality.



## Johns-Manville *asbestos*

# Confidence BRAKE LININGS for the future!

*And now, with even greater intensity than ever before, Johns-Manville is backing its customers with a continuing and expanding research program . . . with added production facilities . . . with the broadest national advertising program in the industry . . . and with sales aids for local dealer advertising.*

You should look into this confidence-building Johns-Manville program and learn more about the outstanding position of Johns-Manville in the friction materials business *now . . . and for the future!* For further information, write to Manager, Automotive Department, Johns-Manville, Box 60, New York 16, N. Y.



**6. Its name acceptance—**  
The Johns-Manville name—known to millions for quality—helps you build volume and profits!



## FRICTION MATERIALS

## Service Suggestions

### Engine Oil Capacity on Nash Statesmen and Rambler

1952 Statesmen and Rambler series now have a recommended oil capacity of 4 instead of 5 quarts. The manufacturer reports that engineering tests reveal that the 4 quart capacity is entirely satisfactory and that increased oil

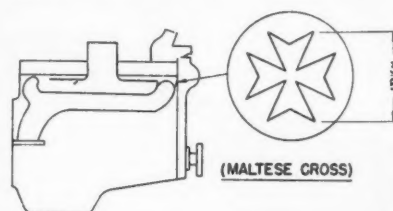
mileage will result. This is said to be particularly true of the 1952 Statesmen series engine with the  $4\frac{1}{4}$  inch stroke. The longer crankshaft throws cause more turbulence in the crankcase which often results in lower oil mileage. The dip stick, oil pans, etc. were not changed. The correct oil level indication is accomplished by

pressing the oil filler and breather farther into the cylinder block. Oil capacity of the early production 1952 Statesmen engines can be revised by relocating the oil filler tube, which can be tapped into the cylinder block to the new location. Correct location can be made by completely draining the engine oil pan and refilling with 4 quarts of accurately measured engine oil. The filler tube can then be tapped into the block until the full mark on the dip stick is indicated. Filler tube change on the early production Ramblers is not recommended because of interference with pedal linkage. In production it was necessary to revise the throttle linkage to obtain sufficient clearance.

In all cases where engine oil capacity has been changed to the new recommendations, the owner must be informed of the change.

### Six Cylinder Chrysler Engine Identification

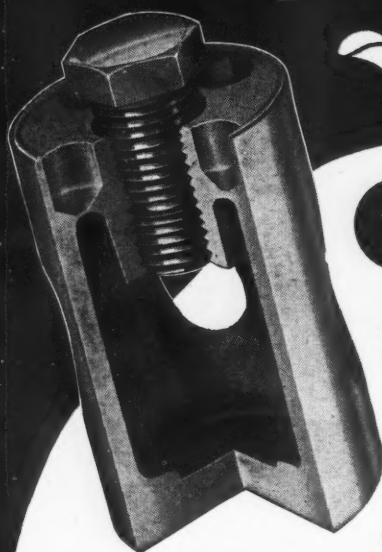
Occasionally six cylinder Chrysler engines may be released with one or more connecting rod or main bearing journals finished .001 inch undersize dimension. When a six cylinder engine contains an undersized crankshaft, the engine may be identified as shown. On the outside, a maltese



cross is stamped on the cylinder block of the upper front corner of the machine face surface, signifying that the engine contains a crankshaft with one or more journals .001 inch undersize. On the inside, the position of the journal or journals, which are .001 inch undersize, will be stamped on the machined surface of the crankshaft center counter-weight, as shown here. The connecting rod journals are identified by the letter "R" followed by the rod journal number. Thus "R-1" would indicate that No. 1 journal is .001 inch undersize. Main bearings

(Continued on page 136)

## Make V-8 valve grind jobs Pay Off and Get a Double Profit by Installing **JOHNSON** adjustable tappets



It's easier to sell tappets when the head is off. And you can make a double profit with less work by recommending Johnson Adjustable Tappets with your valve grind jobs. During a valve grind, lift out the old tappets and slip in Johnson Tappets. As simple as that you can make this double profit and save the hard work of grinding off valve stems.

Your customer is better satisfied because you can adjust Johnson Tappets to give him a smoother, quieter engine. Adjustment is simple. Special spanners included with each set of tappets leave both hands free to make faster, more accurate adjustments. Once you've set the patented self-locking screw, Johnson Tappets will maintain the setting.

There's more profit for you if you sell Johnson Adjustable Tappets with every Ford and Mercury V-8 valve grind. Order a supply of Johnson Tappets today.

SEE YOUR JOBBER!

"Tappets Are Our Business"

**JOHNSON PRODUCTS**



INC.

MUSKEGON, MICHIGAN



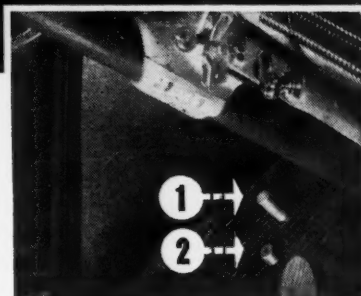


**DRIVER VISION CLEAR**—The new Guide Autronic-Eye is mounted just behind the windshield in lower left hand corner.

Headlights "Think for Themselves" with

# AMAZING NEW GUIDE AUTRONIC-EYE

it sees...it protects...it performs



**SWITCHES.** 1. The auxiliary switch depressed momentarily signals the oncoming car that has headlights on the upper beam (bright). 2. Standard car "Dimmer" switch. One position places headlights under automatic control; other position keeps headlights on lower beam "Dim."

The new Guide Autronic-Eye never relaxes its unceasing guard. It sees . . . it protects . . . it performs. And this uncanny device makes a revolutionary contribution to the convenience, comfort and safety of night driving.

At each dark stretch of highway, the Autronic-Eye flicks headlights to their upper beam. But with an approaching car the Autronic-Eye changes them to "dim" for courteous and safe driving. A whole line of cars may pass while the Autronic-Eye holds lights lowered. Then, the instant the road ahead is clear, up they flash to bright again.

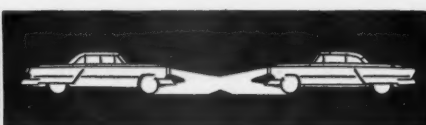
The driver need only drive, his mind free of the constant nagging fatigue and worry caused by the demands of continuous light control.

And all this is automatic—accomplished through the electronic photo tube which is the heart and mind of the Guide Autronic-Eye.

At present this great new Autronic-Eye is factory-installed at extra cost on 1952 Oldsmobiles and Cadillacs only. Guide Lamp Division, General Motors Corporation, Anderson, Indiana.



**ON THE OPEN ROAD** the Guide Autronic-Eye automatically keeps headlights on the upper beam.



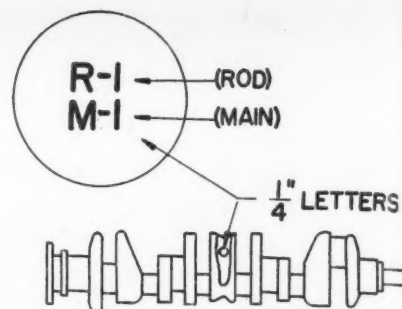
**A CAR APPROACHES** and the Guide Autronic-Eye automatically drops headlights to "dim."



**THE CAR SWISHES BY** and the Guide Autronic-Eye flicks headlights back to "bright" automatically.

journals will be identified by the letter "M" followed by the journal number. Any combinations of the above marking may be encountered and .001 inch undersize bearing should be used in the positions indicated. The letter "A" immediately following the engine number, indicates that all bores are .020 inch oversize.

A similar method of identification is used for V-8 engines. A maltese cross stamped on the engine number pad on the cylinder block following the engine number, indicates that the engine contains a crankshaft with one or more undersized journals. The positions of journal or journals which are .001 inch undersize will



be stamped on the machine surface of the No. 3 cutaway. Rod journals are identified by the letter "R" followed by the journal numbers and main bearing journals are identified by the letter "M" followed by the journal numbers.

## How to Make Grinding Equipment Last Longer

Aluminum cylinder heads can be ground with a smooth, fast cut by using stick lubricant of the type made for door lock mechanisms. It reduces loading of the cutting wheel so that it stays "true" longer. It is also good for use in all high speed grinding, drilling, or cutting where circulating lubricants are not used.

## Shift Mechanism Adjustment On Nash

In some cases, on the 1950-51 Rambler series, difficulty has been encountered in correctly adjusting the shifting mechanism due to misalignment of the pinholes. The first type gear shift bearing housing assembly may be revised as shown in the illustration. Then install revised housing just tight

(Continued on page 138)

**The Gold Rush is On!!!**

**4-year-old Engines are flocking in for overhauls . . .**  
**Rebore them for Profit with Van Norman Boring Bars!**

Here's the way to make more money NOW! . . . sell more service to the millions of owners of 4-year-old and older cars, trucks, buses and tractors, that are going to be in service a long time yet. Sell complete overhauls . . . complete motor-rebuilding jobs. And start with the basis of all quality jobs . . . rebore with a Van Norman Perfect-O Bar. This is the quickest and easiest bar to operate . . . the only bar with the 4 "Cat's Paws" that support the cutter all the way down . . . to a perfect job in one quick cut per cylinder.

So get set for big profits now, with the Van Norman Bar you need for your work . . . "the bar that sells more service". See your jobber or write Van Norman Co., Springfield 7, Mass.

**A Van Norman Bar for Every Job**

<p>944-S — the light, fast, portable bar with Sucker-Cutter for car dealers, garages, service stations.</p>	<p>777-S-4 — the portable bar with Sucker-Cutter — for big machines, trucks with hard cylinder sleeves, etc. Shown above.</p>	<p>888-18 — one of the giant bars, for heavy trucks, big diesel, all heavy-duty work.</p>
---	---	---

**The Best-Equipped Shop Gets the Business!**

*"It Pays to Van Normanize"*



# GET 50% MORE PROFIT

ON YOUR  
UNDERCOATING  
JOBS



## LION *Nōkōrōde*

UNDER-CAR SEALER AND SILENCER

### 1. 50% More Jobs Per Drum



Nokorode is *concentrated*—no excess solvent. You spray Nokorode to 1/16" thickness—and it dries to almost 1/16". It's made *entirely* by Lion under U. S. Patent 2393774, assuring *controlled* uniformity, *controlled* quality. Nokorode goes 50% farther, yet costs no more than ordinary undercoatings. That means 50% more profit for you.

### 2. Easier Application... Lower Labor Cost



Nokorode is *uniform* for smooth application—no troublesome "blobs"... flows freely permitting steady pressure in the gun. There's no lost time due to lost pressure.

Nokorode is *stable*, made of highly compatible materials—won't separate in storage, won't clog guns or hoses. You avoid unnecessary clean-up jobs—you save man-hours and money.

Made and Guaranteed By

## LION OIL COMPANY

EL DORADO,



ARKANSAS

**FREE!** Details on how to increase undercoating profit.

LION OIL COMPANY  
El Dorado, Arkansas

Please send information on higher profits with LION NOKORODE.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_



enough to provide movement of the assembly for adjustment. Assemble the gear shift operating shaft, levers, etc. into the housing. Locate the bearing housing properly on the jacket tube to provide the clearance  $1\frac{1}{2}$  inches between the gear shift lever and the steering wheel when the shift lever is raised for a shift into low.

Install the aligning pin, check the cross-over for correct operation and tighten the "U" bolt to maintain the correct bearing housing location. Adjust the gearshift rods at the transmission. Check the operation of the shifting mechanism for complete engagement in all gears. If there is insufficient travel in second gear, the

steering jacket tube may be loosened and turned slightly clockwise

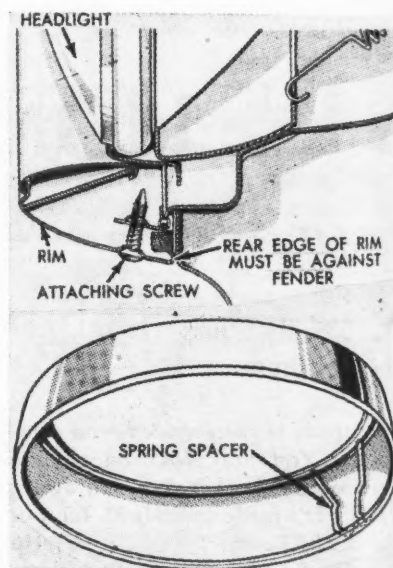
### Rubber Lube Used for Cleaning Battery Terminals

The rubber lubricant which is used for spraying on rubber shackle bushings, and so forth, is also good for cleaning off accumulations of battery terminals and to retard its recurrence. It seems to cause a change in the corrosive metal which is usually coated with sulfuric acid. The coating which is left acts as a retardant for future corrosion.

### Headlamp Rim Installation On '52 Ford Car

To obtain a tight headlamp rim installation on 1952 Ford cars, the factory suggests that the installation be made in the following manner:

Check the clearance between the rim upper retaining clip and the fender. If the clearance is greater than  $1/16$  in. bend the clip backward. Never bend the clip forward to make installation easier. Be sure that the two rim spacer slips (part No. 1a-13058-A) are properly installed. The clips should be installed with the short offset portion of the legs of the clips toward the head lamp as shown.



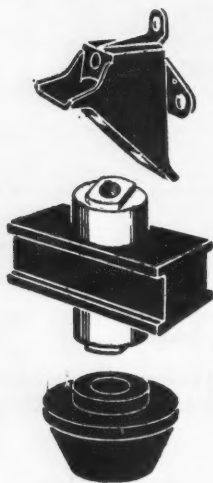
Push firmly on the top of the head lamp rim to seat the retaining lip behind the clip. Then push in on the bottom of the rim so that the lip passes over the edge of the lower retainer and rests on the flat section of the retainer. The rim should now contact the fender.

**DON'T BE FOOLED**



## Motor Mounts Can Cause You Trouble

**if not replaced on time!**



Most mechanics have learned that it doesn't pay to feel around with faulty motor mounts. They know that mounts can cause clutch chatter, motor misalignment and excessive vibration. The smart mechanic can spot the trouble blindfolded. The only safe engine mounting is one that is in perfect condition—one that performs the job for which it was intended with 100% efficiency. Anything less than a perfect motor mount may mean serious trouble.

Install **Armor-Flex Motor Mounts**. They're made of strong, pliable rubber permanently bonded to brass-plated metals.

**DOAN MANUFACTURING CORP.**  
1761 LONDON ROAD • CLEVELAND 12, OHIO

# The Ford Owners have sure discovered my shop!



**I'm getting more of their business  
since I hung my Genuine Ford Parts sign!**

The Genuine Ford Parts sign is a symbol of good service to Ford owners the country over! They know that Genuine Ford Parts are available through the garages and service stations that display it. And now that this sign is being backed up by hard-hitting advertising in LIFE and many other magazines, it will mean even more business than ever!

## **Let's Get Acquainted**

Your Ford Dealer wants to get acquainted with you. He wants to help you with your parts problems. Drop in and see him for some helpful, parts-selling hints.

**FIND OUT HOW YOU CAN GET THIS SIGN!**

### **MAIL THIS COUPON NOW!**

#### **PARTS AND SERVICE SALES DEPARTMENT**

**Ford Division, Ford Motor Company, Box 658, Dearborn, Mich.**

Please send me complete information telling me how independent garages can get a Genuine Ford Parts sign. I'd like to cash in on this, too!

FIRM NAME \_\_\_\_\_

INDIVIDUAL'S NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ H \_\_\_\_\_

## Tips on Timing . . . .

**Henry J  
Hudson  
Kaiser  
Nash**

### Henry J

All models of the Henry J's use a gear. The arrangement is such that unless the gears are badly worn or seriously damaged, it is unlikely that the valve timing will be affected. Remove the timing case cover and unbolt the camshaft gear. Pull the crank gear off the shaft.

Press the new crankshaft gear on the shaft, being careful to align the key in the key way perfectly since the gears are tight fit on the shaft and it is perfectly difficult to correct it for misalignment after the gear is started. Turn the crank gear until the marked tooth on the gear is pointed directly to the cen-

ter of the camshaft. Tentatively mesh the camshaft gear with the crankshaft gear, so that the two marks on the cam gear straddle the one mark on the crank gear. Rotate the camshaft so that the bolt holes line up properly and install the bolts and locking plate.

### Hudson

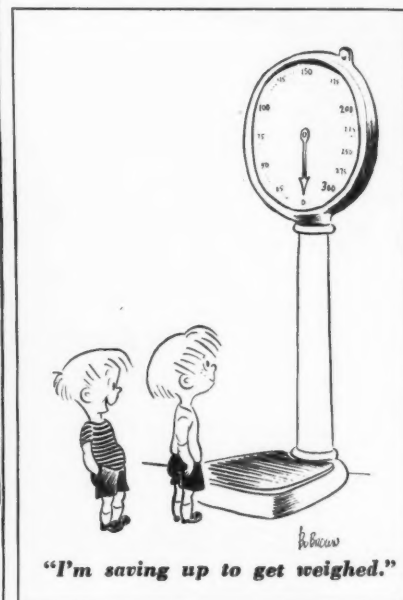
Hudson engines except the 1948 to 1951 six cylinder models are equipped with gears. The cam gear has two punch marks and one punch mark on the crank gear. When setting the timing for the valves the punch mark on the crank gear should come in between the two punch marks on the cam gears. Camshaft gear is held on with three bolts. Remove three bolts and gear will slide off. When in-

**LISLE CORPORATION**  
BOX 1024 CLARINDA, IOWA

*it's a good tool...it's a*

**JEEPERS CREEPER** now sold exclusively by

**Lisle**



stalling put the one mark on the crankshaft gear so that it points directly between the two marks on the camshaft gear. Then turn the crankshaft two full revolutions until the gear again assumes its checking position. A single mark between the two marks on the cam gear, the timing must be correct. It may, however, be necessary to retime the ignition. On 1948 to 1951 models where a chain is used, remove the timing case cover and then unbolt the camshaft sprocket. Remove the sprocket and timing chain as a unit. If it is necessary to remove the crankshaft sprocket do it at this time.

(Continued on page 142)





Top mechanics say it... Fleet owners say it...

**"Whenever you take out an oil seal,  
always replace it with a new one..."**

With National service stocks, you have the right seals when, where you need them. Cabinet comes with the deal, jobber keeps stock up. Stocks "tailored" for different needs. Ask your jobber, today!

Service stocks to fit your needs



#5512. For lube stations. 58 popular front wheel seals.



#5511. For garages. 114 fast-moving front, rear seals.



Support this industry wide program

...and be sure the new seal is a National! You'll do a better job in less time. And if you take a moment to show him, the car owner will appreciate it. Keep an old seal on hand. Show the customer where wear occurs, explain how important new seals really are. You'll make a friend of the car-owner and build your reputation for good work. Replace with new National Oil Seals—every time!

**NATIONAL MOTOR BEARING CO., INC.**

General Offices: Redwood City, Calif. Plants: Redwood City, Calif.; Van Wert, Ohio

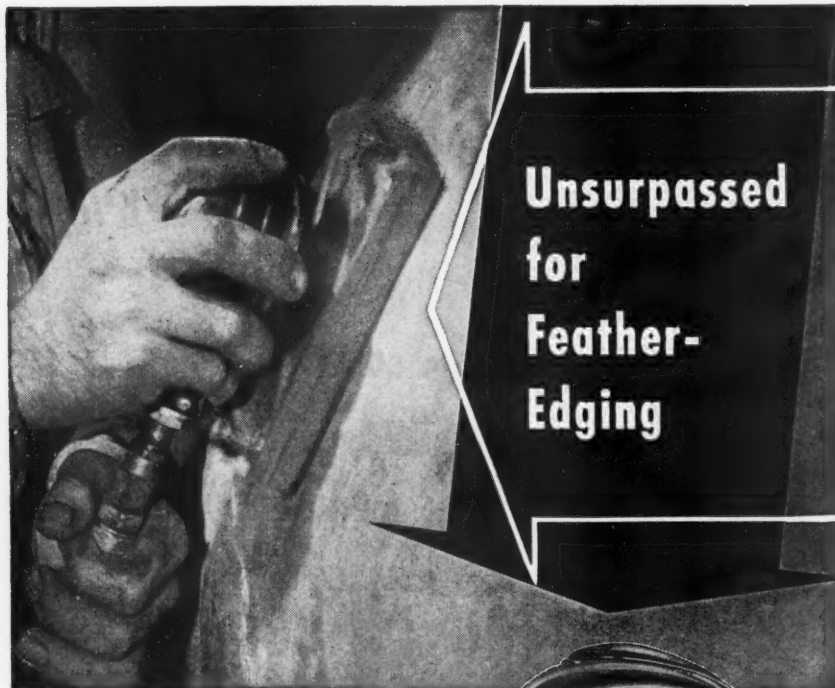
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## Tips on Timing . . . . Continued from Page 140

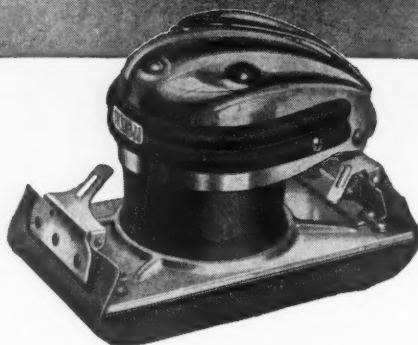
Press on a new crankshaft sprocket since it is very difficult to correct for misalignment after the sprocket since it is very difficult to correct for misalignment after the gear is started on the shaft. Mount the chain over both sprockets. Then push the camshaft sprocket on to the shaft and bolt into place, being careful to maintain the re-

lationship between the timing chain and sprockets. Turn the crankshaft two full revolutions until the timing marks are again in the checking position. Timing is correct when there is eight links of the timing chain between the mark on the camshaft sprocket and the mark on the crankshaft sprocket, counting the link at each mark.



### NATIONAL Model 400

"Mity-Midget"



Feather-edging . . . ordinarily it's a slow, tiresome, touchy job . . . but with National's Mity-Midget it is fast and easy. This convenient, air driven block sander weighs only 4 pounds. It fits the hand comfortably, and because it is vibrationless, can be used for hours without tiring the operator. Making 4000 to 6000 orbital strokes per minute, it cuts sanding time to a minimum, and allows you to finish more jobs per day. Write for details.



Or See Your Jobber

**NATIONAL AIR SANDER, INC.**  
2820 AUBURN ST., ROCKFORD, ILLINOIS

## Kaiser and Fraser

Timing chains are used on these jobs and to replace, remove the radiator and timing case cover. Take off the camshaft sprocket retaining nut, remove the camshaft and crankshaft sprockets together with the chain as a unit. Set up a new sprocket and chain on the bench in the position that they occupy in the car and arrange the chain so that there are ten pins of the timing chain between the marks on the camshaft sprocket and crankshaft sprocket, counting the pin at each mark. Install the gears in their position and then crank the engine two full revolutions and recheck.

With the timing chain set up in this manner the valves are correctly timed regardless of which piston is at top dead center. It might be necessary to retune the ignition after resetting the valve timing.

## Nash

Remove the timing case cover, turn engine until crankshaft sprocket is toward the crankshaft and both marks lie on a straight edge between the centers with the intake valve open. To recheck the setting, set the mark tooth of the camshaft sprocket approximately to the one o'clock position. This should place the mark tooth of the camshaft sprocket where it begins to mesh with the chain. It should be  $9\frac{1}{2}$  links or 19 pins between the marked teeth of both sprockets.



# I'VE BEEN "BURNED" for the last time!

Time and again I've fallen for undercoats boasting individual features that are supposed to be terrific. I've bitten for the last time. Well, now I know Martin-Senour Undercoats beat 'em all! Why? Because they're balanced. They give you the five features that mean a first-class paint job. You get perfect adhesion to bare metal or old finish. Filling qualities are excellent. Martin-Senour Undercoats dry a heck of a lot faster and make sanding far easier. What's more, you get the best color holdout. Add all this up and you see what I mean when I say Martin-Senour gives the car refinisher balanced-formula primer surfacers.

## All Martin-Senour Undercoats Give You These 5 Balanced-Formula Benefits

1. Maximum Adhesion
2. Excellent Filling Properties
3. Fastest Drying
4. Easiest Sanding
5. Best Color Holdout

Martin-Senour primer surfacers contain no graphite. They have unexcelled resistance to moisture and humidity, highest rating on

resistance to cracking, finest adhesive qualities. Available in agitator drums.

6252—Light Gray

6255—Dark Gray

6256—Red Oxide



"Martin-Senour Undercoats are the best I've ever worked with," says Gene Struble, Gene's Auto Body Works, Haskell, N. J.

"We use all three types of Martin-Senour Undercoats in our shop. That way we know we're getting a base for the finish coat that is tough and durable. You can tell by the way they fill, dry and hold out that you're putting on real protection for the finish coat, protection that works from the inside out."

See your N.A.P.A. Jobber for Martin-Senour Undercoats

# MARTIN-SENOUR

2520 South Quarry Street, Chicago 8, Illinois



*Factory Packaging*... the only positive control from Factory to Finisher





# EXTRA WEAR NO EXTRA



Extra wear life because Leak-Proof rings are *Altinized*...which means they prevent scuffing and premature wear. *Altinizing* is a natural bearing material which assures quick seating due to its built-in lubricating qualities.

Remember: you get this extra wear life at NO extra cost...and only McQuay-Norris rings are *Altinized*.

**McQuay-Norris Manufacturing Company**  
St. Louis 10, Missouri



**McQUAY - NORRIS**  
**LEAK-PROOF**  
REG. U. S. PAT. OFF.  
**PISTON RINGS**

*Made for the  
Toughies!*

**THIS SET WILL OUTPERFORM  
"HARD TO HOLD" JOBS**

# LIFE AT COST!



**CHROME  
CONTROL**  
**LEAK-PROOF**  
REG. U. S. PAT. OFF.  
**PISTON RINGS**

*with the*  
**NEW "400" OIL RING**

**ANY OTHER PISTON RING SET IN THE  
REGARDLESS OF KIND, DESIGN OR PRICE**

## Racing News . . . . .

As we go to press Troy Ruttman still holds the lead in the National Championship Point standings. He has a total of 1410 which he earned by winning the 500-Mile Race at Indianapolis, the 200 miler at Raleigh, North Carolina. At Springfield, Illinois, he finished in twelfth position. His nearest rival now is Chuck Stevenson. Steven-

son jumped into second place by finishing second to Bobby Ball at Denver, Colorado, on October 28. Stevenson needs only a fourth place finish in one of the two remaining championship events to take over the lead. But it won't be easy as Troy Ruttman, who was injured in August at Cedar Rapids, Iowa, has been released

from the hospital and will race at San Jose, California, November 2. That is providing he can pass the medical examination.

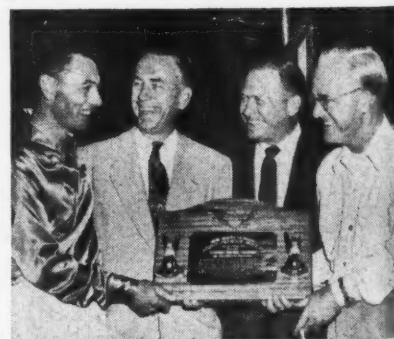
Duane Carter, in third place with 1220 points, still remains a serious threat if he can get medical permission to race in the last two races. Only three other drivers who have a mathematical chance at the crown are Sam Hanks, Jack McGrath and Jim Rathman.

Bill Shindler, who was a very consistent performer in both midgets and big cars, lost his life in Allentown, Pa. He was among the leaders when the car in front of him lost the rear axle assembly. Before Shindler could see it, he ran head-on into it, making him lose control of his car and crash through the fence.

Records were broken in almost every race this year. At Indianapolis, Chet Miller established a new one-lap and four-lap qualifying record. Troy Ruttman, Bill Vukovich and Jack McGrath set new records from five miles to 500. At Milwaukee, Jim Rigsby set a new one-mile record and Mike Nazaruk set a new 100-mile record.

At Raleigh, North Carolina, Chuck Stevenson set a new one-lap record and Troy Ruttman set a 100-mile and 200-mile record.

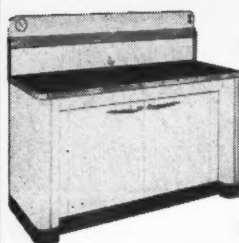
At Springfield, Mike Nazaruk set a new one-mile record and Bill Shindler set a new 100-mile record. At Syracuse, New York, Jack McGrath set a new 100-mile record.



Wilbur Shaw presents the Irish Horan Achievement award to Don Cummins, Vice President of the Cummins Engine Company. The trophy was presented in recognition of the company's contribution to Automotive progress as exemplified by Freddie Agabashian's (left) success in winning the pole position for the 1952 Indianapolis race. At the far right, standing next to Wilbur Shaw, is Irish Horan.

## SHURE BUILT SERVICE EQUIPMENT MAKES YOUR SHOP...

**Departmentized  
Clean  
Efficient**



**MODEL 9100  
SERVICE  
WORK  
BENCH**

Exclusive Nat-Flex\* bench top is a non-conductor. Resists oil, grease, water. Complete with air hose, blow gun and parts washer. Available with sliding doors—Model 9150. \*T.M. Reg.

**"LOW BOY" SERVICE MERCHANDISER**

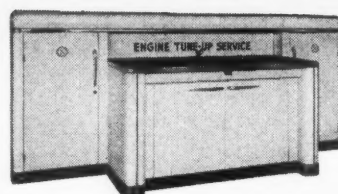
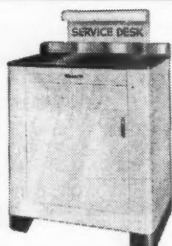


Photo shows MODEL 9205.

Service Merchandisers available in 48" and 60" heights; choice of 54", 60", or 72" bench lengths; swing-out or sliding bench doors.

**MODEL 9332  
SERVICE DESK**



Attractive, efficient-looking, all-steel write-up desk. Large, inclined top measures 26" x 38". Full back. Smooth acting drawer and huge cabinet for manuals, tools and testing equipment. Comes complete with fluorescent light and lettering.

**MODEL 9320  
SERVICE  
MANAGER'S  
MERCHANDISER**



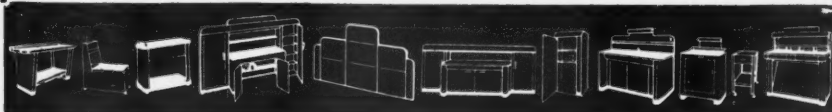
Sells profitable accessories and chemicals. Lighted shelves and inclined panel. Space for job tickets, records and manuals.

Above items shipped factory assembled.

**ASK YOUR JOBBOR OR WRITE US  
FOR DESCRIPTIVE INFORMATION  
ON COMPLETE LINE OF SHURE-  
BUILT EQUIPMENT**

Contract items made to specifications . . . phone, write or wire

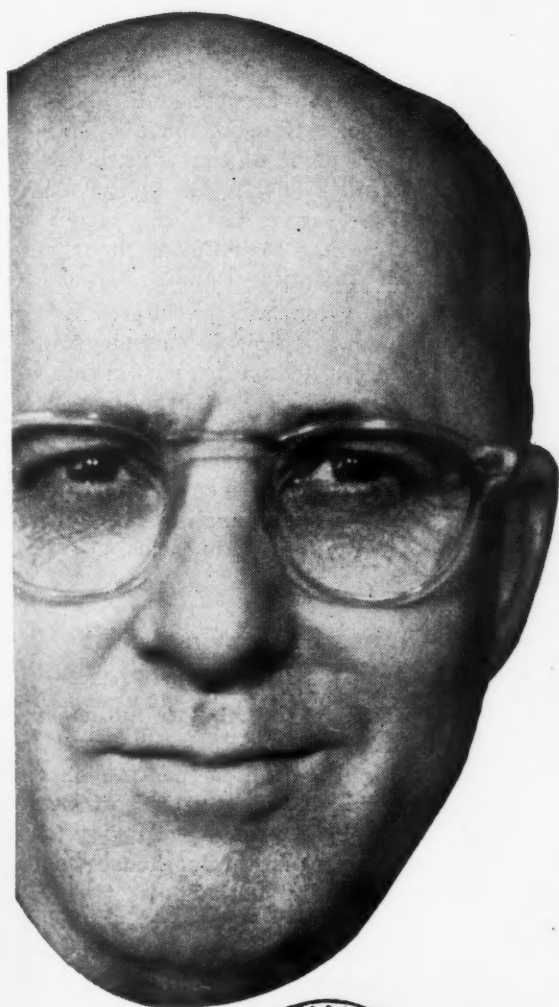
**Shure**  
**MANUFACTURING CORPORATION**  
1601 S. HANLEY RD. • ST. LOUIS 17, MO.





In cars with hydraulic valve lifters, too, test experts agree...

# "Purelube improves engine performance!"



**Says Charles E. Bosse, Hauser Nash,  
La Grange, Illinois**

Mr. Bosse is one of the 170 service experts who made the "hidden name" test. He drove his 1947 Cadillac over 1,000 miles without knowing the oil in his crankcase was Purelube, the sure motor oil.

Mr. Bosse is also one of the 148 experts (87%) who reported Purelube improved engine performance in one or more ways! He writes:

"I'm especially critical of oil. Not just because taking care of cars is my business, but because I drive a car with hydraulic valve lifters. After 3 or 4 miles of city driving with your test oil, I noticed much smoother and quieter engine operation. During the test I increased gas mileage and used less oil. I need an oil change now but prefer not to change until I can get more of your test oil."

Note Mr. Bosse's reference to *hydraulic valve lifters*. His report confirms laboratory and road tests that prove Purelube is outstanding in the whole combination of qualities needed to keep any engine clean... efficient... longer lasting. Purelube quiets hydraulic valve lifters! Frees them up! In all qualities, including detergency, Purelube meets and exceeds "heavy-duty oil" requirements of passenger cars.

Satisfy your customers and build profitable repeat business. Use Purelube in your service department and recommend Purelube when you sell a car.

Remember, car dealers who stock Pure Oil products get free service... sales... and advertising helps under Pure Oil's business-building Plan for Car Dealers.

See your Pure Oil salesman or call your local Pure Oil office today.

The Pure Oil Company—General Offices: 35 E. Wacker Dr.

Be sure  
with Pure



Pure Oil's complete car dealer line, headed by Purelube, the sure motor oil, includes high-quality oils for house branding, approved automatic transmission oils, gear and chassis lubricants and TBA.

# Purelube

**THE SURE HEAVY-DUTY OIL FOR PASSENGER CARS**

## Hudson Shows Dealers, Press New Light Car

Hudson will begin production of its long awaited light car in November and will present it to the public before the end of this year.

The company showed the new car to its sales organization and the press in Detroit the middle of September. Detailed specifications, however, still are secret as well as the name Hudson will give to the

totally new car. It can be said, however, that Hudson has done a good job of building a compact light car weighing about 2800 lbs. and with an engine rated at better than 100 hp. The horsepower to weight ratio will be about the same, or perhaps even a little better than the Hudson Hornet, indicating a ratio of something like 1-to-26.

The new engine is an in-line 6 with a 7.5 compression ratio

and uses regular grade gasoline. Wheelbase was not announced but visual calculation would place it somewhere between the shortest cars now being made and the Ford-Chevrolet-Plymouth range with which the car is to compete price-wise. Styling is completely new, with large glass areas and pleasing overall general appearance. It does not resemble any of the current Hudson lines but rather appears to have the best styling features of several other cars combined into one package.

The car is of monocoque construction and retains the step-down principle instituted by Hudson. Interior of the body is designed to accommodate six passengers. Hudson officials make a great point of the car's inherent stability despite its light weight. They say it has been tested at more than 100 miles per hour with no perceptible wander.


The car will be offered under several options to include standard and deluxe models, an aluminum cylinder head to give compression ratio of 8-to-1, a choice of standard transmission with or without overdrive, or Hydramatic transmission, and at least three different rear axle ratios.

## Sears to Continue Sale Of K-F Made Allstate

Sale of the Allstate automobile through Sears-Roebuck stores in 23 cities will be continued, according to a Sears statement. There had been some doubt that the large mail-order house would continue to merchandise the K-F built car. However, a Sears spokesman says the car selling experiment is promising and that orders for a 1953 model already have been placed with Kaiser-Frazer. It is reported that, whereas the current Henry J and Allstate are very similar in general appearance and specifications, the 1953 models will have more marked differences between them. Registration figures for the first seven months of this year show that 913 new Allstates were registered from the 23 Sears outlets compared with approximately 20,000 Henry J's sold by K-F dealers.

# You're the Doctor...

In Restoring an Engine's  
Original Smooth Performance



## Make Thermostat Replacement with DOLE DV's

### Part of Your Prescription!

Prescribe a new Dole replacement thermostat in every cooling system check-up. Do this consistently and take your profit—but also earn the thanks of your customers. Dole DV's—positive in their temperature control—are designed especially to handle the higher pressures of modern sealed cooling systems. They contribute to top performance and quicker warm up... save gas, oil and motor wear.

**CONTROL WITH DOLE**

**THE DOLE VALVE COMPANY**  
1901-1941 Correll Ave., Chicago 12, Illinois  
Representatives in Principal Cities

# This Coupon

## MAKES IT EASY to get a TRICO SALES-MAKER CABINET



**T**ENS of thousands of these handsome metal Trico Cabinets now are making money for dealers nearly everywhere.

To get yours, you need invest *only* in a modest, balanced stock of Trico's new Soft-Rubber Wiper Blades and Arms. Send us the coupon and we'll have your Jobber show you how you can own a Stock Organizer Cabinet D-102, *without extra charge*.

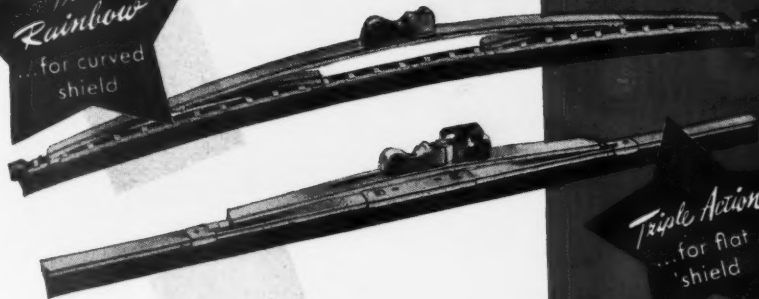
The new blades fit **ALL FOUR** types of wiper arms *without* adaptors. *No more fumbling on the 'shield!* The Cabinet puts the right blade or arm at your finger tips. *No more fumbling on the shelf.*

Mail the coupon to Trico *today!* The big blade season is just ahead. No obligation.



### Windshield Wipers

Trico Products Corporation, Buffalo 3, N. Y.



**TRICO PRODUCTS CORPORATION, Buffalo 3, N. Y.**

Please have a Trico Jobber show me the new Trico metal Cabinet D-102 and submit the cost of a stock of blades and arms especially selected to fit my needs.

Firm Name \_\_\_\_\_

Individual \_\_\_\_\_

Street Address \_\_\_\_\_

Town or City \_\_\_\_\_

(My Jobber is: \_\_\_\_\_)



## Hot Rod Tips . . . . . Continued from Page 55

will need different mountings than my four cylinder transmission has. Could you tell me what year Ford mounting I should get? I have a 1941 transmission and also a '41 bracket that it sits on. Can I use a 1941 steering column?

Preston Markle  
Hanover, Pa.

**T**HIS engine can be installed by using a 1934 Ford cross member. It will have to be welded into position. It will also be necessary to install a V-8 radiator rather than Model B as your B radiator does not have enough water capacity. Also the V-8 exhaust system will have to be used.

To install a column shaft it will be necessary for you to obtain a complete steering column. A 1940 Ford will fit and I believe your '41 will work also. Usually, no bending of the shifting rods is required but in some cases you will have to bend the actuating rods so that they clear the fire wall. Or you might even have to cut a bit of the fire wall away or bend it a little. You can reduce the length of the steering column by cutting it down.

**~~\$300,000.00~~**  
**~~\$200,000.00~~**  
**worth sold last month...**

*did you sell your share?*

**GYRO**

**SKID-CONTROL**  
(T.M. REG.-PAT. PEND.)



**GYRO SKID-CONTROL**  
exerts instant counter-thrust to stop skids.

**GYRO SKID-CONTROL**  
damps vibrations, chatter and rattle.

**GYRO SKID-CONTROL**  
automatically acts to compensate for loss of traction.

GYRO SKID-CONTROL is the incredible all-weather safety device that harnesses the forces of inertia and momentum to control skidding, correct uneven traction, eliminate chatter and vibration.

GYRO SKID-CONTROL is instant-acting, automatic; it operates effectively on any car, on any highway surface, at any speed.

**JOBBERs:** Phone or wire **\$39<sup>95</sup>**  
your order today. LIST

**GYRO SKID-CONTROL COMPANY, INC.**  
9238 WEST OLYMPIC BLVD., BEVERLY HILLS, CALIFORNIA

**TESTED —  
PROVEN —  
ENDORSED**

by safety experts,  
engineers,  
fleet operators,  
race drivers,  
and private owners.

**NOTICE!**  
Gyro Skid-Controls are made and sold only by Gyro Skid-Control Company, Inc. Unauthorized use of the name, sale or manufacture is prohibited.

### Increased Compression On 1947 V-8 Olds

*How much may I plane off the head of my 1947 Oldsmobile 8, without injury to the motor?*

*How much would be maximum and how much hp would I gain? Would it be wise to use dual carburetors and manifolds after the head is planed down so there is no damage to the motor?*

*Who makes high ratio rear end gears for this model Oldsmobile? I would appreciate any help or advice you may offer.*

E. C. Boswell  
Akron, Ohio

**Y**OU can safely plane .060 inch from the cylinder head and perhaps more. But to be sure, it is a good idea to put some soft putty in the combustion chamber and then crank the engine. In this way, you can be sure the valve heads have clearance. A gain of about two horsepower would result from the increased compression. Dual carburetors and manifolds would definitely improve the engine performance.

I doubt very much whether anyone makes a higher gear ratio for this model.

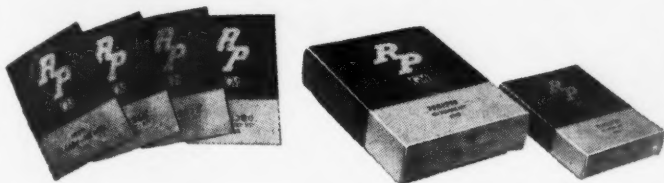


Designed...Tested...Proved!

# ROCHESTER CARBURETORS

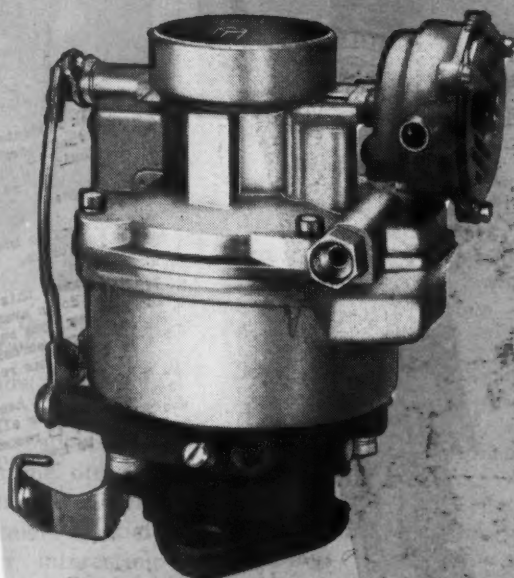
**WIN TOP PERFORMANCE HONORS  
WITH LEADING CAR ENGINEERS**

Rochester Carburetors are designed, tested and proved by Rochester and General Motors engineers at General Motors proving grounds! That's one good reason why Rochester carburetors give top performance. Tests were conducted right on the new cars themselves—the only way to insure economy and performance. Built by Rochester, these proved designs are manufactured to General Motors standards.



**WHEN SERVICE IS NECESSARY ALWAYS USE  
ROCHESTER ORIGINAL EQUIPMENT PARTS**

Be in position to serve the carburetor needs of the ever-increasing number of Rochester equipped cars in your neighborhood—always use Rochester original equipment service parts for complete customer satisfaction. Rochester service parts are available as individual parts or in popular repair and gasket kits.



**OPERATION AND  
MAINTENANCE MANUAL**

Complete treatise on carburetion and carburetor service, profusely illustrated. Available to servicemen, technicians and students. Price \$1.50.



**ROCHESTER PRODUCTS**  
DIVISION OF GENERAL MOTORS,  
ROCHESTER, NEW YORK

**CARBURETORS**

**ROCHESTER CARBURETORS**

A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

**DISTRIBUTED BY WHOLESALERS EVERYWHERE**



...the best and fastest way  
to fit pins...a fine job...  
recommend Sunnen to  
all our customers."

Reeves Russell, Partner  
Burton Auto Supply  
Weslaco, Texas



**BURTON AUTO SUPPLY**  
REPLACEMENT PARTS *Wholesale Distributors*  
TOOLS AND SUPPLIES *AUTOMOTIVE EQUIPMENT*  
Complete Automotive Machine Shop Service  
3rd and Kansas Sts. Phones 102 and 579  
WESLACO, TEXAS

RAYMONDVILLE, TEXAS  
7th and Main Hwy  
Phone 175

Sunnen Products Company  
7910 Manchester  
St. Louis 17, Missouri

October 15, 1951

Gentlemen:

We want you to know what a fine job our Sunnen Wet Honing Machine is doing for us.

For our money, this machine is the best and fastest way to fit pins. We do an average of about 100 pin jobs a month -- plus a lot of other jobs such as king pins and hydraulic brake cylinders. We haven't run across any pins that we couldn't fit. Our Sunnen Honing Machine has really paid its way.

We know from first hand experience that the Sunnen Wet Honing Machine is tops for all kinds of pin fitting. That's why we don't hesitate to recommend Sunnen to all our customers for their own shops. We know it'll make money for them, too.

Respectfully,

BURTON AUTO SUPPLY

*Reeves Russell*  
Reeves Russell,  
Partner & Manager



"We Service the Equipment We Sell"

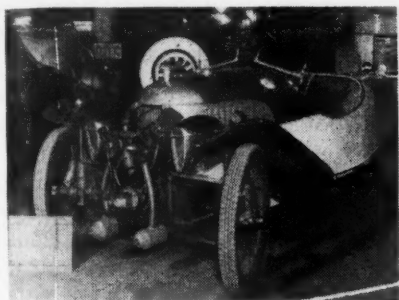


**SUNNEN PRODUCTS CO.**  
7910 Manchester Ave., St. Louis 17, Mo.  
Canadian Factory: Chatham, Ontario



## The International Motor Show

The car shown below was rated "the most unusual" to be displayed at the International Motor Show at the Arena in Philadelphia on Sep-



The Morgan "Three Wheeler," restored by Wm. A. Johnson.

tember 8th through 13th. William A. Johnson's "Morgan Three Wheeler" is a British product of 1921 vintage. It was shown in the Antique Sportscar Division. The event included an array of over 60 automobiles, of both the present and past, such as sportscar, antiques, custom cars, classics, hot rods and racers. This was Philadelphia's first annual Sports Car Revue.

Another interesting car was a custom job, built by William Heermance of Swenkville, Pa. It has been voted one of the ten outstanding custom cars in the country. Mr. Heermance started out with a Studebaker engine. With the exception of a Mercury windshield and two Mercury front fenders, the rest of the car was built from scratch.

One car which drew a lot of attention from the audience was the new Mercedes "300," the first one to be exhibited in this country. The car is the production

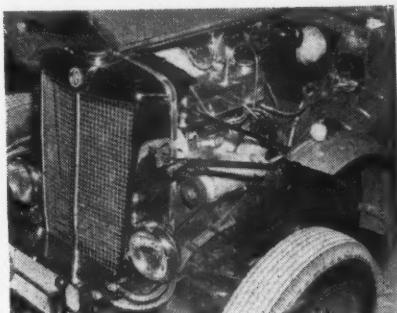
The Heermance custom car, voted one of the country's 10 best.



model based on the famous "300 SL" Mercedes which came in first and second at Le Mans this year. The sedan model sells for \$6,000.

Among the competitive cars displayed was a Mark II MG that has been stripped for competition. It has a supercharger, and magneto ignition.

Lt. "Rocky" Drebber, of the South Jersey Sportscar Club, has lightened this job wherever possible. It has cycle fenders, and the top has been taken off completely. To make room for the supercharger, the battery has been placed in the luggage space behind the seats.



Competition MG. Notice the oil cooler in front of the radiator.

Turn-out for the show was excellent, an indication of the steadily increasing interest in sportscars. According to Dick Strome, director of the show, a number of sportscar clubs and foreign dealers participated. Among other interesting cars were a Czechoslovakian Skoda from behind the Iron Curtain, a French BNC racer, three beautifully restored Mercers, belonging to members of the Antique Automobile Club of America and a 1930 Alfa-Romeo.



**DOES MANY EXTRA-PROFIT JOBS IN YOUR SHOP!**



Hones Bushings from .480" to 2.625"

Burton Auto Supply... like thousands of other users... has discovered that Sunnen Wet Honing delivers the kind of on-the-job performance they need.

Sunnen owners quickly learn how many *different* kinds of jobs a Sunnen Wet Honing Machine can handle. Piston pin bushings, con-rod bushings, spindles, hydraulic brake cylinders, transmission housings... you can do these and many other jobs right in your own shop.

Your Sunnen jobber will be glad to show you how you can expand your service setup so that you can handle bushings and small cylinder jobs from .480" to 2.625"—with the speed and accuracy that builds customer satisfaction and greater profits for you.

**Call your Sunnen jobber NOW...ask him to arrange a demonstration.**

**SUNNEN PRODUCTS CO.**  
 8162 Manchester Ave., St. Louis 17, Mo.  
 Canadian Factory: Chatham, Ontario

# "We have learned to rely heavily on our dependable HARLEY-DAVIDSON Servi-Car to help us get the job done right"

says Fred B. Mertz, Service Manager  
Arlin Oldsmobile Co., Clayton, Mo.



Harley-Davidson Motor Company  
Milwaukee, Wisconsin

Gentlemen:

We believe in paying tribute where tribute is due and in this case the Harley-Davidson Motorcycle Company is certainly in line for a round of applause.

Being in the automobile sales and service business located in the Saint Louis metropolitan area, where fast, economical pick-up and delivery service is a must, we have learned to rely heavily on our dependable Harley-Davidson Servi-Car to help us get the job done right. We have a large investment in modern equipment, and our new Harley-Davidson has proved beyond a doubt to be able to carry more than its share of the pay load.

We would like to go on record as being one of the many satisfied Harley-Davidson users.

Yours very truly,  
ARLIN OLDSMOBILE COMPANY  
*Fred B. Mertz*  
Fred Mertz, Service Manager

Thousands of car dealers are Servi-Car boosters. They'll tell you it is indispensable for rendering profitable, modern service. Today, more than ever, you need this time-saving money-maker and good-will builder.



Send for this Servi-Car booklet

It tells how Servi-Cars are used to keep shop work rolling on schedule, how they bring in new business, how they please customers, and how they advertise your name all over town. Send for your free copy today, or see your dealer.

HARLEY-DAVIDSON MOTOR CO., Dept. MA, Milwaukee 1, Wisconsin

## SERVI-CAR

### SERVICE SELLS MORE SERVICE

## Audit to Tell Fate Of Crosley Motors

The fate of Crosley Motors, Inc., still is in doubt but should be known soon when an audit of the company's books is completed. The audit was ordered after General Tire and Rubber Co. bought control from Powell Crosley, Jr., founder and president. It is thought likely that rights to the Crosley car will be sold by General Tire if a buyer can be found, with General retaining production of the Crosley engine for marine and diesel use.

## Somerville Made Plymouth V.P. and Board Member

R. C. Somerville has been elected a vice president and a member of the Board of Directors of Plymouth Motors Corp. He will continue as general sales manager of Plymouth, a position he has held since June of 1947. He has been associated with Plymouth since 1931.

## New Cars Sell Below 1940 Retail Prices!

At current prices automobiles are a bargain! In 1940 a factory worker had to spend thirty-one weeks' wages to purchase a new car. A comparable car today would cost him twenty-eight weeks' wages or, to carry the comparison further, in 1940 it would have taken 1,141 bushels of wheat to purchase a car which today could be bought with 827 bushels of wheat; in 1940, 144 crates of eggs and today 89 crates of eggs would suffice; in 1940, 16 bales of cotton, today 9 bales of cotton. What's that about high prices?

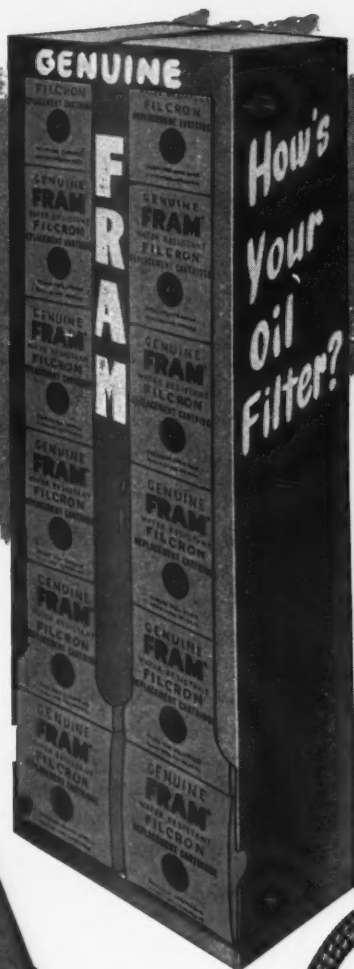


# 2 great aids to BIGGER CARTRIDGE PROFITS



## FRAM SLUDGE SYPHON

Provides quick, easy way to clean filter bodies. One operation instantly removes all sludge. Only 50c with an order of 48 or more Fram Cartridges.



## FRAM CARTRIDGE DISPENSER

Handsome metal merchandiser keeps Fram Cartridges handy and in plain view. Easily fastened to wall of lube or display room. Holds 12 Fram C-4 Cartridges or assortment of other sizes. Only 40c with D-750 Cartridge Assortment (24 C-4 size cartridges).



CALL YOUR FRAM DISTRIBUTOR OR MAIL THIS COUPON

FRAM CORPORATION, Providence 16, R. I.

Gentlemen: I am interested in ☐ the Fram Cartridge Dispenser and/or ☐ the Fram Sludge Syphon. Please have my Fram Distributor call on me.

NAME.....

ADDRESS.....

CITY.....ZONE.....STATE.....

DISTRIBUTOR'S NAME.....



## CALENDAR OF COMING EVENTS

### Dealer Meetings

Oct. 9-11—Pennsylvania Automotive Assn., Chalfonte-Haddon Hall, Atlantic City, N. J.

Oct. 12-14—Arizona Automobile Dealers Assn., Pioneer Hotel, Tucson

Oct. 16-18—National Used Car Dealers Assn., Hotel Hollenden, Cleveland

Oct. 19-21—Florida Automobile

Dealers Assn., Sans Souci Hotel, Miami, Fla.

Oct. 26-28—Tennessee Automotive Assn., Noll Hotel, Nashville

Oct. 26-28—Automobile Dealers of Alabama, Buena Vista Hotel, Biloxi, Miss.

Oct. 27-29—Automotive Trade Assn., of Virginia, John Marshall Hotel, Richmond

Nov. 16-17—Texas Used Car Deal-

ers Assn., Buccaneer Hotel, Galveston  
Nov. 19-20—Oklahoma Automobile Dealers Assn., Skirvin Hotel, Oklahoma City

Dec. 1-2—Idaho Automobile Dealers Assn., Boise

Dec. 3—Oregon Automobile Dealers Assn., Columbia Athletic Club, Portland

Dec. 4—Utah Automobile Dealers Assn., Newhouse Hotel, Salt Lake City

Dec. 8-10—Ohio Automobile Dealers Assn., Statler Hotel, Cleveland 1953

Feb. 14-18—National Automobile Dealers Assn., San Francisco

Feb. 28-Mar. 7—Johnstown Automobile Dealers Assn., Cambria County War Memorial, Johnstown, Pa.



Quality G-H "SAFETY PARTS"  
Time Tested... Road Proven



FRONT END SUSPENSION PARTS—  
TIE ROD ENDS — KING BOLT SETS  
COIL SPRINGS

MR. P. E. WEBER

The real test—the *only* test that proves the quality of any automotive part is that made by motorists themselves under all driving conditions. G-H "Safety Parts" have passed with "flying colors" year after year of constant use by satisfied customers throughout the country. G-H Parts wear longer, because they are made of the finest materials to exact specifications to assure a perfect fit every time.

Mr. P. E. Weber, president of P. E. Weber, Inc., Milwaukee, Wisc., a G-H Warehouse Distributor, writes:

"We know, as do our jobbers and dealers, that installing G-H "Safety Parts" means guaranteed customer satisfaction and more repeat business."

Higher profits and more repeat business can be yours, too, when you buy and install G-H Parts. Prove it for yourself. Ask the G-H man or write,



**HERSHEY METAL PRODUCTS, INC.**  
DERBY, CONNECTICUT

### Care Will Save Your Car Trade Meetings

Oct. 21—Municipal Auditorium, New Orleans, sponsored by Automotive Wholesalers of New Orleans

### Automobile Shows

Oct. 10-18—International Auto Show, Oakland Exposition Bldg., Oakland, Calif.

Oct. 22-Nov. 1—International Motor Exposition, Earls Court, London, England 1953

Jan. 24-31—Grand Rapids Automobile Show, Civic Auditorium, Grand Rapids, Michigan

Mar. 14-22—Chicago Automobile Show, International Amphitheatre, Chicago

### Industry Meetings

Oct. 10-12—Automotive Wholesalers of Texas, fall meeting and convention, Driscoll Hotel, Corpus Christie, Texas

Oct. 13-14—Middle Atlantic Automotive Wholesalers, fall convention, Chalfonte-Haddon Hall, Atlantic City, N. J.

Dec. 4-6—Distributors Institute meetings, Ritz-Carlton Hotel, Atlantic City, N. J.

(Continued on page 158)



"If I had any money, I'd cut you off without a cent!"

# ANNOUNCING

## THE NEW ALLEN *Dynacharger*

### BATTERY CHARGERS

#### FAST-SLOW CHARGER

DE LUXE PORTABLE MODEL F-88  
— 6 Volts, 75 Amps. — 12 Volts, 40  
Amps.

DE LUXE PORTABLE MODEL F-77  
6 Volts, 75 Amps.

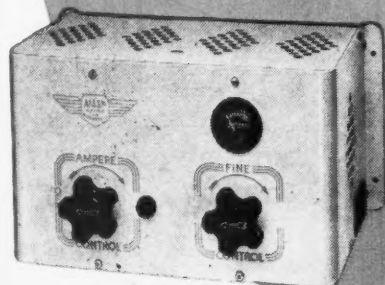
Has many big charger features, includ-  
ing automatic electric timer.



#### FAST-SLOW CHARGER

STANDARD PORTABLE MODEL  
F-52 6 Volts, 75 Amps.

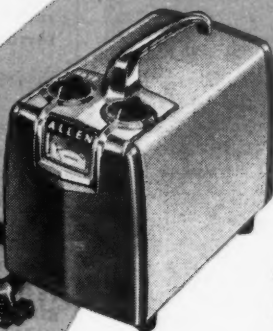
A high quality charger priced within  
the reach of every shop.



#### SLOW CHARGER

UNITRON MODEL E-15 —  
Charges up to twelve 6-volt,  
or six 12-volt batteries at 6  
amperes.

A "must" for complete battery  
servicing.



#### FAST-SLOW CHARGER

STANDARD MODEL F-210 —  
6 Volts, 100 Amps.

The finest moderate priced, wheel-  
mounted charger made. Includes 5-  
Second Battery Test.



#### FAST-SLOW CHARGER

DE LUXE MODEL F-260\* —  
6 Volts, 100 Amps. — 12 Volts,  
50 Amps.

DE LUXE MODEL F-250\* —  
6 Volts Only — 100 Amps.

*\*With Sensational  
New "Dyna-Meter"  
Battery Analyzer!*

#### ARE YOU PREPARED FOR THE 12 VOLT MARKET?

Several 1953 model cars will have 12-Volt sys-  
tems! 12-Volt charging will be a "must" — be  
prepared with an Allen 6 and 12 volt charger.

Allen DYNA-CHARGERS will help you make battery servicing a more im-  
portant and more profitable department of your business. Some of the out-  
standing features of DYNA-CHARGERS are: New Chip-Proof Finish —  
Rugged Construction — Easy Operation — Dependable Meters — Automatic  
Synchronous Electric Timers — Full Wave, Low Power Consumption Selenium  
Rectifiers — Heavy Duty Transformers — Thermal Overload Circuit Breaker  
Burn-Out Protection.

EASY PAYMENTS...  
TRADE-IN ALLOWANCE

Most Allen distributors will be glad to arrange for Easy  
Payments and a Trade-In Allowance on your old charger.



**ALLEN ELECTRIC AND EQUIPMENT CO.**

KALAMAZOO, MICHIGAN



GET ALL THE DETAILS OF THIS GREAT NEW LINE  
OF CHARGERS, MAIL COUPON TODAY!



#### FARM AND HOME CHARGER

MODEL F-66 — 6 Volts, 4 Amps.  
You can sell many of these over-  
night chargers to car, truck and  
tractor owners.

ALLEN ELECTRIC & EQUIPMENT CO.  
1810 N. Pitcher St., Kalamazoo, Mich.

Please send me the free illustrated folder  
giving complete information on the new  
DYNA-CHARGER Battery Chargers.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

# Calendar . . . . . Continued from Page 156

Dec. 6-9—Automotive Affiliated Representatives meetings, Dennis Hotel, Atlantic City, N. J.

Dec. 7-9—Motor & Equipment Assn., Chalfonte-Haddon Hall Hotel, Atlantic City, N. J.

Dec. 8-9—National Standard Parts Assn., convention, Ambassador Hotel, Atlantic City, N. J.

Dec. 8-9—Automotive Booster Club

International convention - executive council and board of governors meetings, Traymore Hotel, Atlantic City, N. J.

Dec. 9—Manufacturers open meeting and MEMA members informal reception and dinner, Traymore Hotel, Atlantic City, N. J.

Dec. 10—Automotive Booster Club International Banquet, Traymore Hotel, Atlantic City, N. J.

Dec. 10-13—Automotive Service Industries Show, Atlantic City, N. J.

Dec. 11—Overseas Automotive Club reception and banquet, Traymore Hotel, Atlantic City, N. J.

1953

Feb. 26-Mar. 1—Pacific Automotive Show, Civic Auditorium, San Francisco, Cal.

Mar. 9-10—Canadian Automotive Wholesalers & Manufacturers convention, King Edward Hotel, Toronto, Ont.

Mar. 11-14—Canadian Automotive Service Show, Exhibition Grounds, Toronto

Mar. 26-29—Southwest Automotive Show, Fair Park, Dallas, Texas

Apr. 21-24—Middle Atlantic Regional Automotive Show, Commercial Museum, Philadelphia

May 22-24—Southeast Automotive Show, Diner Key Exposition Bldg., Miami

June 18-21—Upper Midwest Automotive Trade Show, Municipal Auditorium, Minneapolis

## Other Meetings

Oct. 20-24—National Safety Council, national exposition, Conrad Hilton Hotel, Chicago

Oct. 22-24—Society of Automotive Engineers, national transportation meeting, Hotel William Penn, Pittsburgh

Nov. 3-4—Society of Automotive Engineers, Chase Hotel, St. Louis

Nov. 6-7—Society of Automotive Engineers, Mayo Hotel, Tulsa, Oklahoma

Nov. 6-7—American Finance Conference, annual convention, Palmer Hotel, Chicago

Nov. 30-Dec. 5—Society of Automotive Engineers, Statler Hotel, New York City

1953

Feb. 2-5—Automotive Accessory Mfg. of America Exposition, Grand Central Palace, New York City



for a tight grip!

## Herbrand's 6 POINT ULTRA BOX WRENCH SET

No. 4620

Increasing service work on modern motors has created a definite need for box wrenches with 6-point openings. Such wrenches take a full grip on all 6 sides of hex nuts or bolts, even when badly chewed up. This Herbrand Wrench Set No. 4620 includes three wrenches with the 6 most popular openings. Their thin side walls permit use in cramped quarters. Heads are offset to reach countersunk or imbedded nuts. Wrenches are drop forged from triple alloy steel and heat-treated for extra toughness. Handsome chrome finish, mirror polished heads, and distinctive paneled handles identify these tools as the finest quality in the wrench field.

Set No. 4620-B contains 3 wrenches with openings  $\frac{3}{8}$ " &  $\frac{7}{16}$ ",  $\frac{1}{2}$ " &  $\frac{9}{16}$ ",  $\frac{5}{8}$ " &  $\frac{11}{16}$ " in respective lengths of  $4\frac{1}{2}$ ",  $5\frac{1}{4}$ ", and 6" packed in sturdy box. Mechanic's Net \$3.63.

### MECHANIC'S NET PER EACH

No. 4623—\$1.15...No. 4625—\$1.19...No. 4627—\$1.29



Set No. 4620 is Herbrand's Tool-of-the-Month Selection for November. See it at your Herbrand distributor or write us.

## Herbrand Tools

Fremont 7, Ohio

THE BINGHAM-HERBRAND CORPORATION



Herbrand

VAN-CHROME TOOLS

...the finest money can buy!



"Yes sir, folks, and notice this sturdy frame while we're here!"



INDEPENDENT SERVICEMEN...

# Here are 4 ways it pays

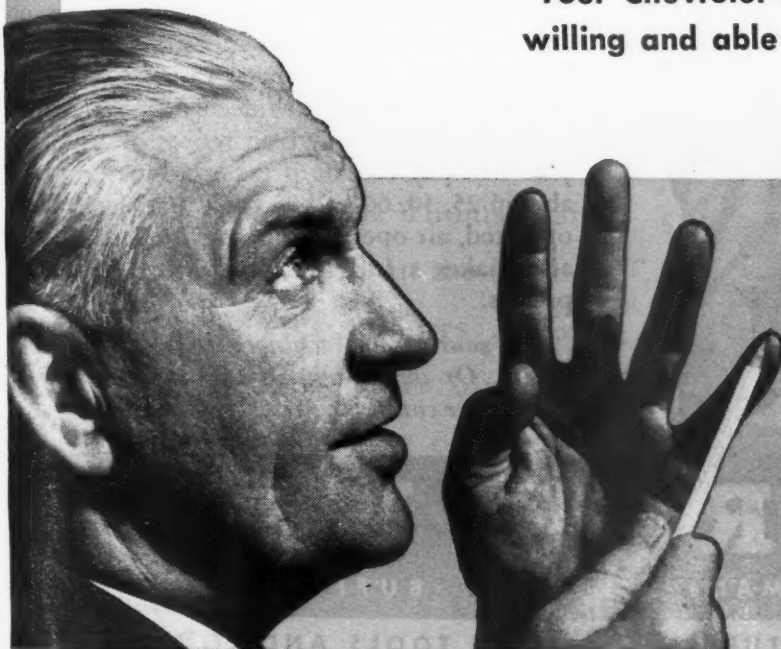
to deal with your Chevrolet dealer...  
your partner in service!



- 1 A well balanced stock of genuine Chevrolet precision-built parts, that
- 2 Help raise your service efficiency, and
- 3 Help increase your customer satisfaction; plus
- 4 Expert help in solving your service problems

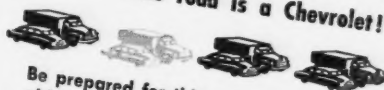
Your Chevrolet dealer is ready,  
willing and able to give you all

4



WORLD'S BIGGEST SERVICE MARKET

*More than 1 out of 4*  
vehicles on the road is a Chevrolet!



Be prepared for this constant, profitable service market by ordering genuine Chevrolet parts from your Chevrolet dealer NOW!



KRW HYDRAULIC PRESS

# AUTOCAR SALES & SERVICE CO.

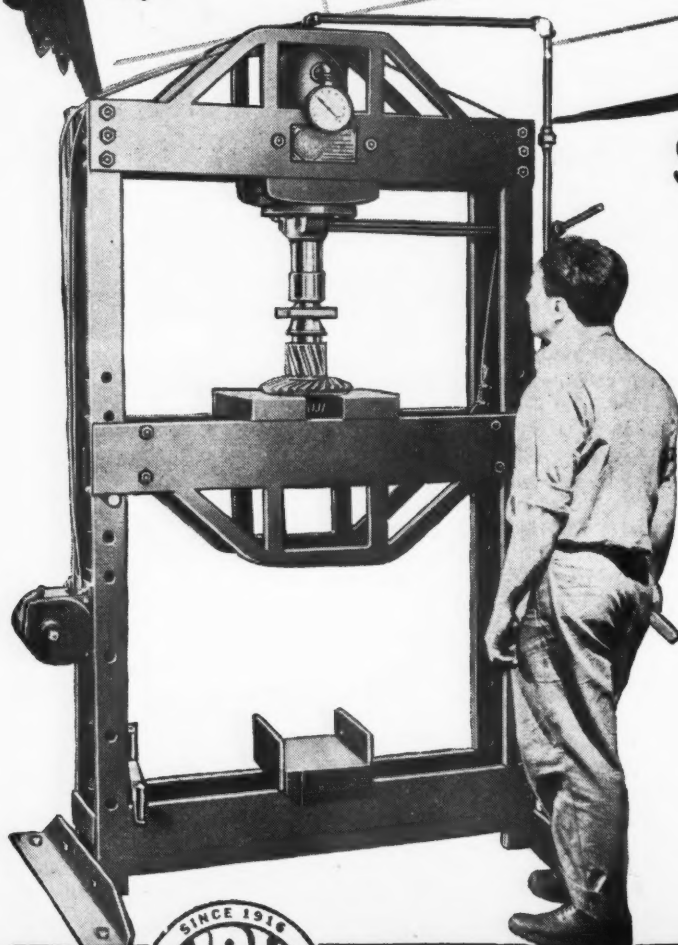
JOB CARD

DATE

WORK PERFORMED

**Every Day**

- ✓ Straightened bumpers
- ✓ Pressed on rear axle shafts
- ✓ Set rivets cold (with adapter)
- ✓ Removed & replaced crankshaft gears
- ✓ Assembled water pumps
- ✓ Removed & replaced camshaft gears



## SOME SERVICE RECORD!

Ask any automotive service shop with a KRW Hydraulic press if it was a worthwhile investment. Autocar, for one, will answer with a rousing "Yes!" In addition to the jobs listed above, Autocar Sales & Service of Buffalo, N. Y. does generator and starter overhauls, installs bushings on shock absorber arms, removes and replaces pinion bearings and forms fifth wheel hold-down straps on their 75 ton hand operated KRW Hydraulic press. Install a KRW press in your shop and you'll soon find your mechanics lining up to use it. Time saved on scores of different jobs will pay for the press in a hurry. Available in 25, 50, 60 and 75 ton capacities. Hand operated, air operated or motor driven. KRW also makes a full line of Bench type Arbor presses.

Ask your local Machinery dealer to quote you. Or write, wire or phone Dept. 87 for complete details and prices.



# K · R · W · I · L · S · O · N

215 MAIN STREET • BUFFALO 2, N. Y.

WORLD'S LARGEST MANUFACTURER OF GARAGE TOOLS AND EQUIPMENT

# THOMSON

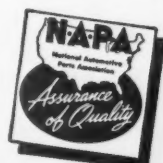
the most  
complete  
line  
in the  
business!



● The *right* part for every car or truck —that's old stuff in some parts lines. But it's *news* in thermostats . . . and Thomson has it! The Thomson line is the most complete in the business . . . 65 first-quality numbers . . . coverage of practically every car, truck, tractor, bus and engine on the road today. If you're going to sell thermo-

stats, doesn't it make sense that you should sell the one line that covers them all . . . THOMSON!

STANDARD-THOMSON CORPORATION  
DAYTON 2, OHIO



Used as original  
equipment by major  
car manufacturers







For profit...  
sell the best lining  
to make the best

# BRAKES

You satisfy, hold, *and profit from*, your customers, only when you sell them something that does it better. And in brake service that's the *lining!*

Sell INLITE, a General Motors Product, tested at the Proving Grounds.

A small stock of INLITE will let you service almost *all* cars . . . with specially compounded segments for *each* brake on *each* car. One quality . . . top quality.

INLAND MANUFACTURING DIVISION • General Motors Corporation, Dayton, Ohio

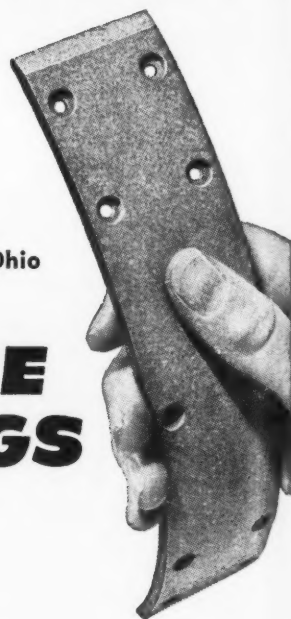
## INLITE BRAKE LININGS

A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

**DISTRIBUTED BY WHOLESALERS EVERYWHERE**



# IT'S EASY TO GET STARTED WITH **MORaine** ENGINE BEARINGS

**... The Bearings with a Pre-Sold  
Multi-Million Car  
Market!**



## IT'S EASY TO GET STARTED WITH ANY OF THESE UNITED MOTORS LINES

DELCO Batteries  
 AC Gauges, Speedometers  
 and Rebuilt Fuel Pumps  
 SAGINAW Jacks  
 MORaine Engine Bearings  
 DELCO Radio Parts  
 ROCHESTER Cigar Lighters  
 HYATT Roller Bearings  
 INLITE Brake Lining  
 HARRISON Heaters  
 GUIDE Lamps  
 DELCO Clocks  
 NEW DEPARTURE Ball Bearings  
 DELCO Shock Absorbers  
 DELCO-REMY Starting, Lighting &  
 Ignition  
 MORaine Gasoline Filters  
 HARRISON Thermostats  
 KLAXON Horns  
 HARRISON Radiators  
 ROCHESTER Carburetors  
 DELCO Hydraulic Brakes

It's easy to get started with Moraine engine bearings . . . easy to get a good volume right from the start. Moraine is the original equipment line . . . the replacement line made to original equipment specifications.

## LOOK AT THE MARKET!

Moraine engine bearings for replacement offer 1952 bearing performance to over 40 million cars and trucks—*three out of every four cars and trucks that pass your door!*

## THE MODERN BEARING—DUREX-100!

Moraine makes Durex-100—a superior bearing—both for original equipment and for replacement. Steel-backed middle layer (or matrix) of porous copper-nickel is bonded mechanically and metallurgically with the babbitt overlay to give Durex-100 increased embedability and greater resistance to fatigue. Durex-100 is the modern bearing.

## GET STARTED NOW!

It's easy to get started with Moraine . . . right now! Contact your nearby United Motors bearing distributor. He can tell you in a few minutes why Moraine engine bearings are profitable for you to handle.

## MORaine ENGINE BEARINGS

A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

**DISTRIBUTED BY WHOLESALERS EVERYWHERE**



Here's how  
I made my  
'forgotten service'  
pay off!



"Air service is a *must* with all of us, but I decided to make 'free' air pay its way. I put the easy-to-follow Schrader Certified Air Service Plan to work. That means I use this Schrader gauge the same way I do the oil dip-stick, and apply the sensible, industry-approved heat build-up formula to show my customers how my service really helps them. That all adds up to customer interest. And customer interest turns 'once-in-a-whiles' into 'steadies' . . . and rings up sales!"

That's typical of what more and more dealers are telling us about the results they're getting with Schrader Certified Air Service. You, too, can make more sales . . . when you put Certified Air Service in operation. Certify your air service with genuine Schrader products. Ask your Schrader supplier for them now.

#### A. SCHRADER'S SON

Division of Scovill Manufacturing Company, Incorporated  
470 Vanderbilt Ave., Brooklyn 17, N. Y.

# Schrader

REG. U. S. PAT. OFF

**Schrader Products**  
sell your dealer top quality  
every time!

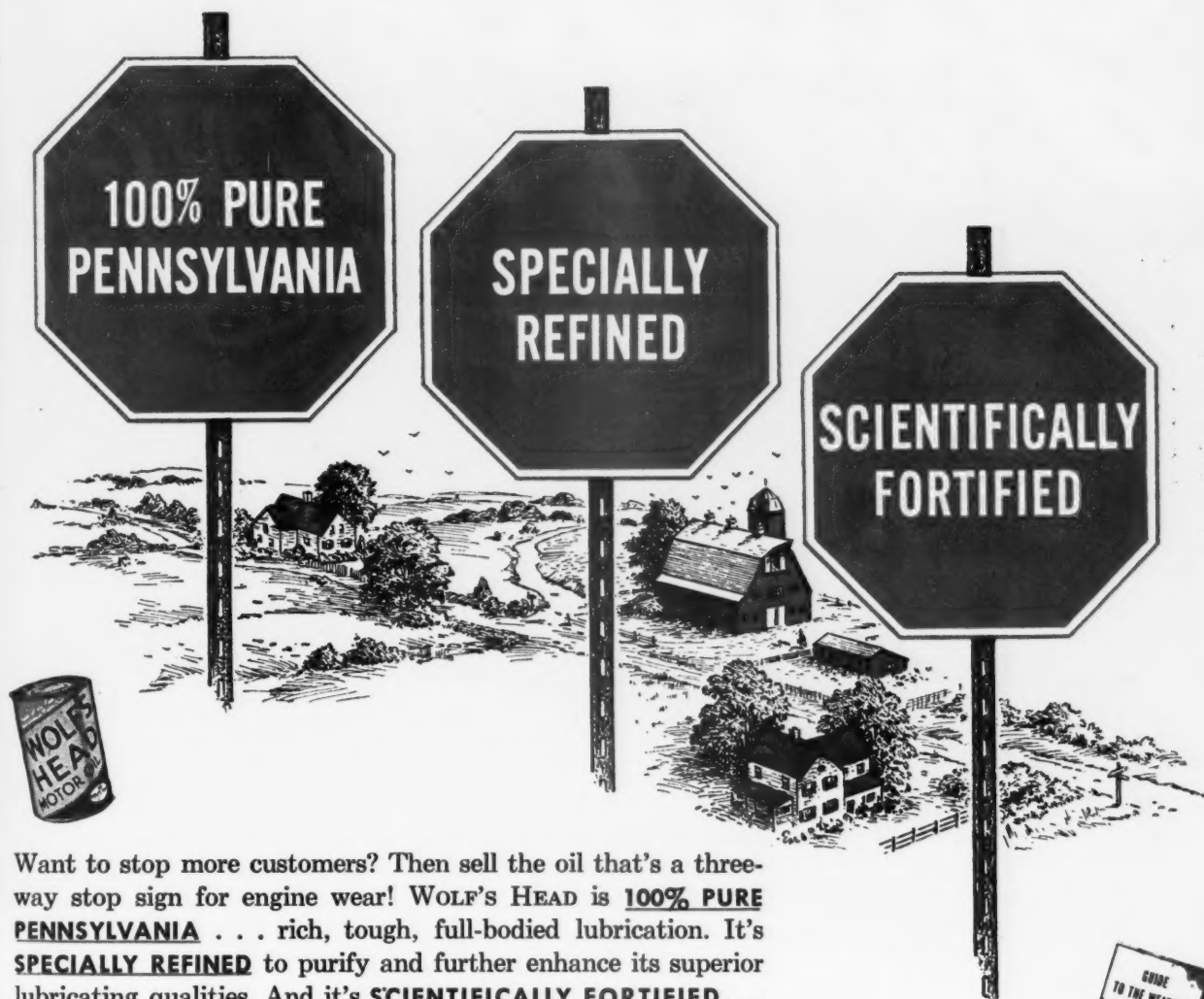


FIRST NAME IN TIRE VALVES

FOR ORIGINAL EQUIPMENT AND REPLACEMENT



# The New WOLF'S HEAD MOTOR OIL



Want to stop more customers? Then sell the oil that's a three-way stop sign for engine wear! WOLF'S HEAD is **100% PURE PENNSYLVANIA** . . . rich, tough, full-bodied lubrication. It's **SPECIALLY REFINED** to purify and further enhance its superior lubricating qualities. And it's **SCIENTIFICALLY FORTIFIED** . . . cleans as it lubricates . . . provides extra protection against corrosive acids, rusting and oxidation.

When heavy duty oil is required, recommend and sell WOLF'S HEAD Heavy Duty . . . it exceeds car manufacturers' specifications.

You'll be ahead with WOLF'S HEAD . . . the name that means "the finest of the fine" to millions of motorists everywhere.

**FREE!**

"Guide to the Weather." Folder shows how to forecast weather by cloud formations. Write for a copy. WOLF'S HEAD OIL REFINING CO., INC., OIL CITY, PA., NEW YORK 10, N. Y.

# WOLF'S HEAD

## MOTOR OIL AND LUBES

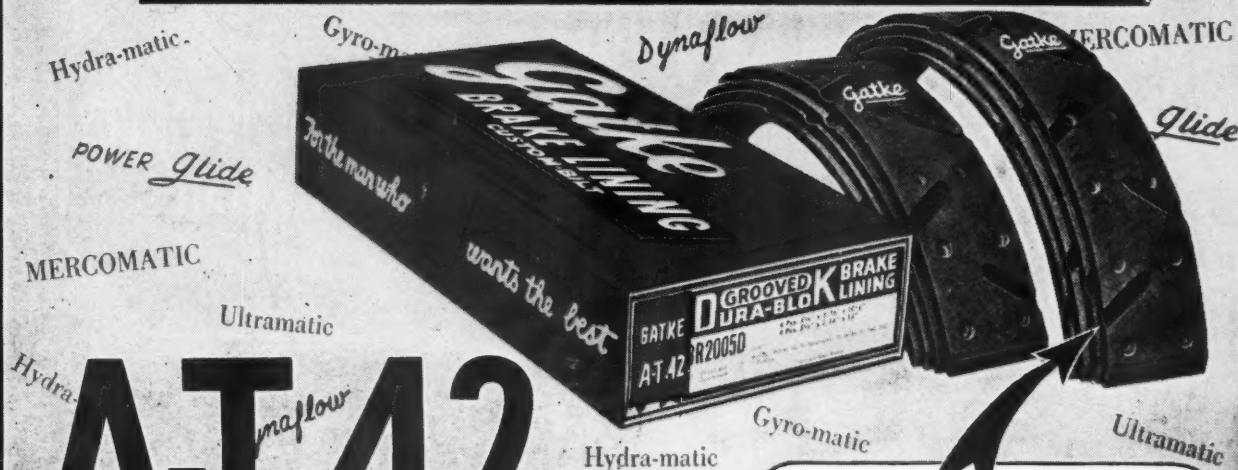
100% Pure Pennsylvania  
Scientifically Fortified



Member, Penna. Grade  
Crude Oil Association

# Gatke BRAKE LINING

*For the man who wants the best*



## A-T 42 for POWERFUL BRAKES

POWER that stays HIGH for added SAFETY and real STOPPING COMFORT. Specially adapted for cars with automatic transmissions.

To make stopping a pleasure you can recommend A-T 42 with assurance. There's nothing like it.

### PATENTED GROOVES

**Clean**—Eliminates GRIT and Foreign Matter. Keeps surfaces clean for reduced wear and uniform braking.

**Cool**—Circulates air against drum surfaces. Brakes keep cooler, stop smoother, wear longer.

**Dries**—Throws out water when brakes are wet—restores brake effectiveness.

ask your GATKE Jobber or write

GATKE CORPORATION, 236 N. La Salle St., Chicago 1, Ill.

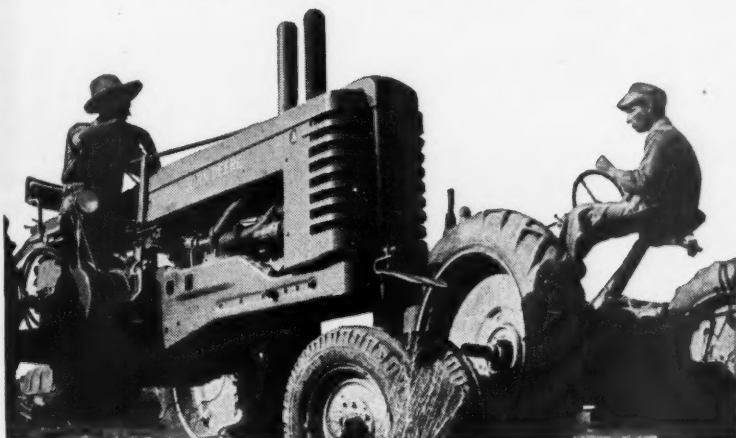
*Manufacturers of*

ASBESTOS BRAKE LINING FOR EVERY PURPOSE . . .  
MOULDED ASBESTOS FRICTIONS—ALL SHAPES AND SIZES . . .  
MOULDED FABRIC BEARINGS SERVING ALL INDUSTRIES . . . ASBESTOS TEXTILES

When a manufacturer says:

ADVERTISED IN  
**Country Gentleman**

WHAT DOES IT MEAN TO YOU?



**SOLD!**

**Your Best Rural Customers.** Advertising in Country Gentleman sells the better-income, bigger-buying rural families in your own trading area. It is the best-read magazine in 2,300,000 rural homes throughout America.



**SOLD!**

**Customers Other Magazines Miss.** Non-farm magazines fail to reach Country Gentleman readers . . . 2 out of 3 women do not read any leading women's magazine—4 out of 5 men do not read any leading weekly magazine.

## Rural America's Best Salesman!

**PROOF THAT ADS IN COUNTRY GENTLEMAN SELL GOODS FOR YOU**

A nationwide survey shows that men and women heads of Country Gentleman homes

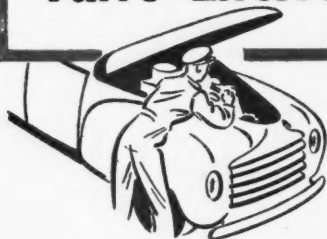
1. READ THE ADVERTISING in Country Gentleman in 96.2% of homes
2. GET BUYING IDEAS from the advertising in 3 out of 4 homes

**The Family Magazine  
for Better Farming—Better Living**

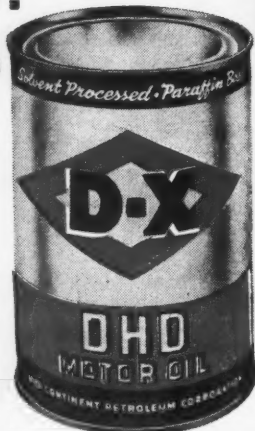




## Trouble with Hydraulic Valve Lifters?



**D-X DHD  
MOTOR OIL**  
has an amazing record  
of Quick, Low-Cost  
Cures!



It's a fact! Improper oil, not mechanical difficulty, is often the real cause of trouble with hydraulic valve lifters. Time after time, a simple change to D-X DHD Motor Oil has restored smooth, efficient valve operation in a short time at very little cost!

## DEALERS TELL US AMAZING STORIES

Registered dealers in models which use hydraulic valve lifters have told us almost unbelievable stories of results that D-X DHD Motor Oil has given. One dealer credits this great oil with stopping faulty hydraulic valve lifter operation in just 10 minutes!

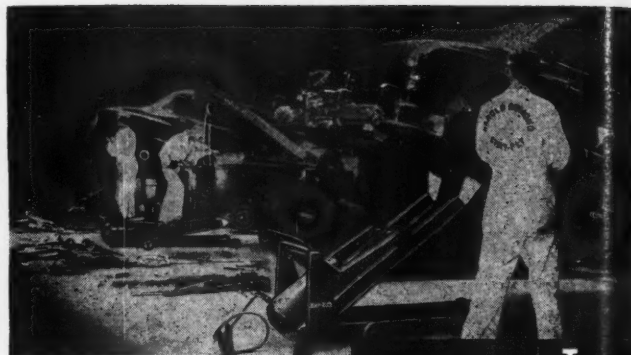
## TRY D-X DHD IN YOUR SHOP

The next time you are confronted with a case of hydraulic valve lifter trouble, change the motor oil to D-X DHD. If no mechanical damage has been done, D-X DHD will very likely solve the problem quickly. D-X DHD Motor Oil is sold by D-X distributors and jobbers throughout the Middle West. If you are located outside our marketing area, write direct to our home office in Tulsa, Oklahoma, for prices and terms.



**MID-CONTINENT PETROLEUM CORPORATION**  
Tulsa, Okla.

Waterloo, Ia.      Terre Haute, Ind.      Omaha, Nebr.  
Chicago, Ill.      Minneapolis, Minn.



Pat. No.  
2230250

**BAY LIFT**

**PORTABLE-PNEUMATIC**



*Bay-Lift Saves & Pays  
in Many Ways*



Mr. G. E. Moothart, Gen. Mgr. of Harold Raymond, Inc.,  
Chrysler-Plymouth dealers of Compton, California  
writes . . .

"We certainly are pleased with the six Bay-Lifts we recently installed in our body and fender departments. It is hard to see how we handled the volume through these departments without Bay-Lifts. They are the means of additional profits to our company and our men have expressed their appreciation for them. In our estimation Bay-Lifts are a **MUST** for efficiency in time-saving operation."

### EASY TO USE AND SAFE

Moved easily as a jack. Used in or out-of-doors by simply attaching to air hose. Lifts either end of any car with safety. Load is supported by two sets of lifting arms, anchored at 4 points, which will raise maximum load to any height with steady action at correct angle, minimizing stress and strain. Equipped with automatic safety lock. Weight of suspended load, distributed equally to all parts of the bottom frame, eliminates possibility of tipping or falling "off balance".

**SCIENTIFICALLY ENGINEERED  
TO INSURE ABSOLUTE**

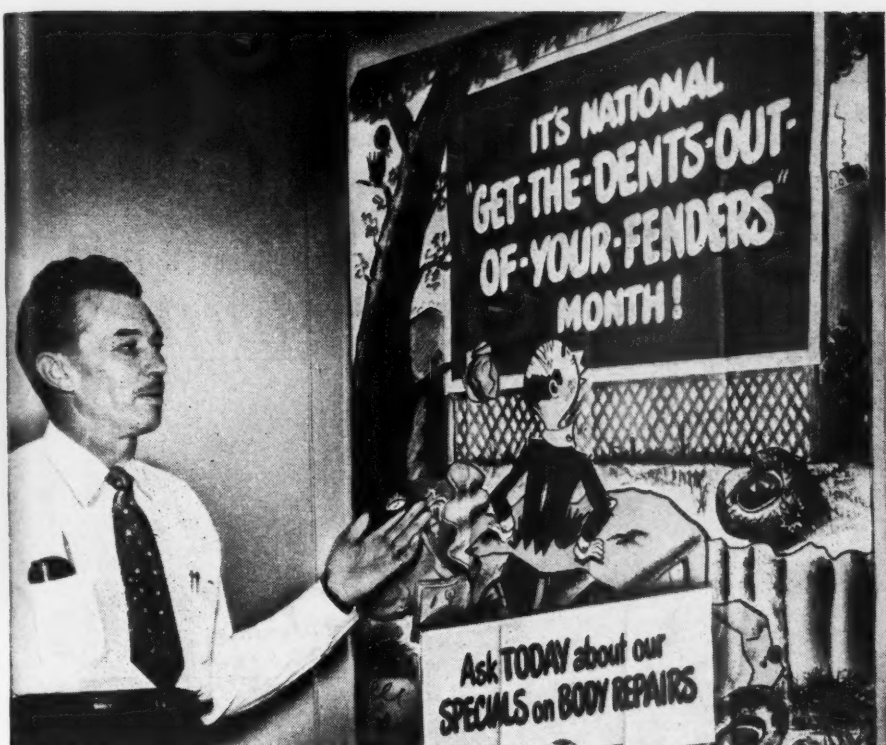
**SAFETY**

Write Today For Information . . .



**BAY MANUFACTURING COMPANY**  
BOX 378 - TORRANCE, CALIFORNIA

NEW YORK OVERSEAS DIVISION, 276 WEST 43RD ST. NEW YORK 36, N. Y.



another 3M Service success story

## Every Month is D.O.O.F.\* Month for this Texas Service Manager!

3M's \*GET-THE-DENTS-OUT-OF-YOUR-FENDERS Month proved the value of active body shop promotion to the Sam White Oldsmobile Co. of Houston, Texas. And proved it conclusively with \$1,000 worth of extra refinish business.

That's why Service Manager L. E. NEITSCH plans to use the D.O.O.F. idea every month.

Says Mr. Neitsch, "... the D.O.O.F. program has proven sound, workable and profitable. It was so successful that we intend to continue to use it every month of the year."

And 3M will help him by furnishing these three business-getting year-around promotions FREE. Your shop can use them, too!

### LOOK THESE OVER!

1. **3M 3-WAY PLAN.** Shows how body shop promotion, water-leak service, and "UNDERSEAL" sales make extra profits for your auto-body shop.
2. **3M SYSTEM OF APPEARANCE RECONDITIONING.** Illustrates to your customers the latest and best refinishing methods. Proves expert refinishing repairs are "more than skin deep."
3. **3M WALL CHART PROGRAM.** Makes refinishing jobs easier to sell by picturing all the steps, skills and products required for perfect refinishing.

**PLUS** a continuing program of hard-hitting advertising and sales aids. Get them from your 3M Salesman, or write Dept. MA1052, Minnesota Mining & Mfg. Co., St. Paul 6, Minn.

Made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.—also makers of "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing. General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ont., Can.

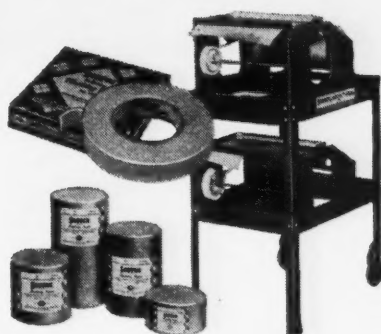
Chilton's MOTOR AGE, OCTOBER, 1952

Do better, faster work with the complete line of 3M Refinishing Products

#### "3M" ABRASIVES



#### "SCOTCH" MASKING PRODUCTS

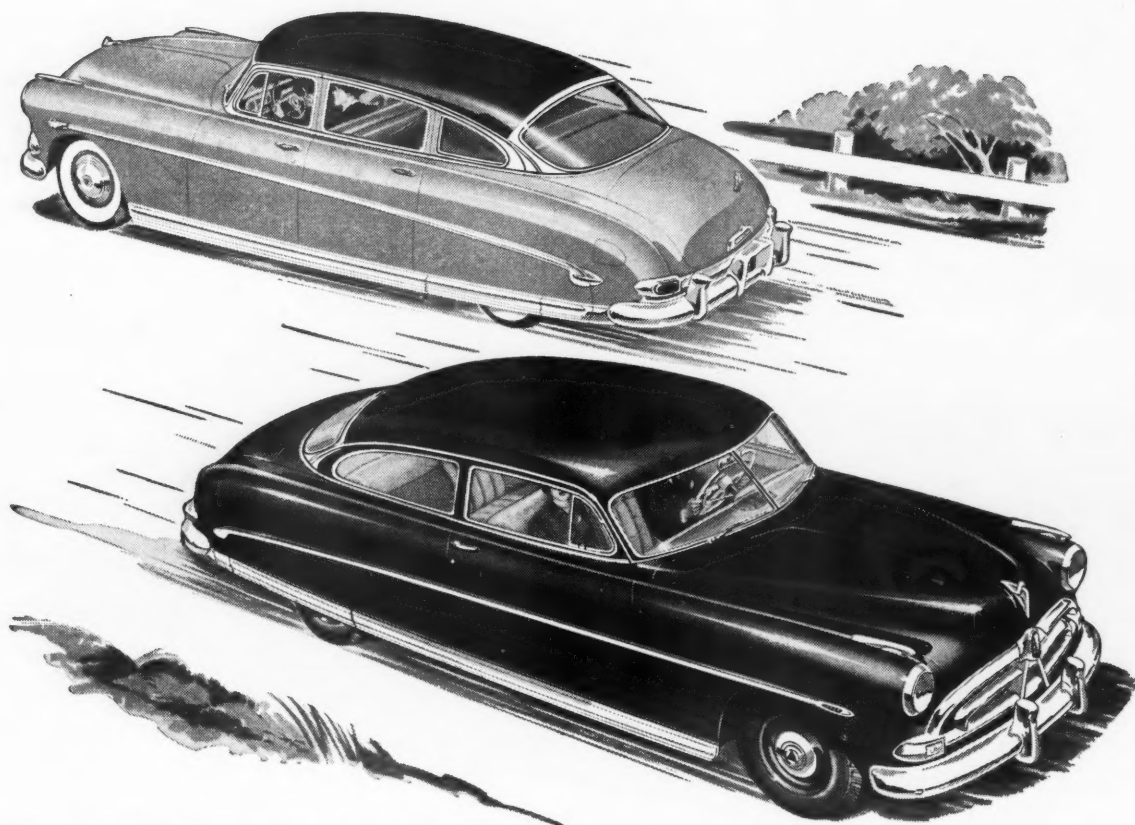


#### "3M" ADHESIVES



# HUDSON DEALERS

*have a One-Two profit punch  
with a haymaker coming up!*



**The fabulous Hudson Hornet**—It's America's glamour car, with a phenomenal stock-car race record. Almost a million people have cheered Hudson Hornets on to 38 victories in 45 starts, a record no other car can even approach. People everywhere are discovering that the car of proven stamina, safety and performance is the car they want in their garages.

**The spectacular Hudson Wasp**—Lower-priced running mate for the Hornet is a closing-room favorite with Hudson salesmen. This top performer, like all Hudsons, has more exclusive features to sell than any other car.

## ***And here's the haymaker coming up!***

**Hudson's new, low-price wonder car**—There's never been anything like it before! It's a sure-fire sensation, with thrilling pickup and velvet-smooth power. It brings fabulous Hudson Hornet performance, luxury and durability to the low-price field.

Possible only because of exclusive "step-down" design, this compact wonder car rides smoother, hugs the road tighter and is safer than anything except another Hudson.

It seats six comfortably and has the quality features

and conveniences of cars costing thousands more.

If you want action and a profitable operation right now, look into a Hudson franchise *today!*

A few choice dealer franchises are still available. For full and confidential information on the Hudson franchise and advance details on the new, low-price wonder car, send in this coupon now!

C. A. J. Hadley, Sales Manager  
Hudson Motor Car Company  
Detroit 14, Michigan

Send me complete information on the Hudson dealer franchise and advance details on the new wonder car. I understand that all such information is to be confidential.

Name

Address

City & State

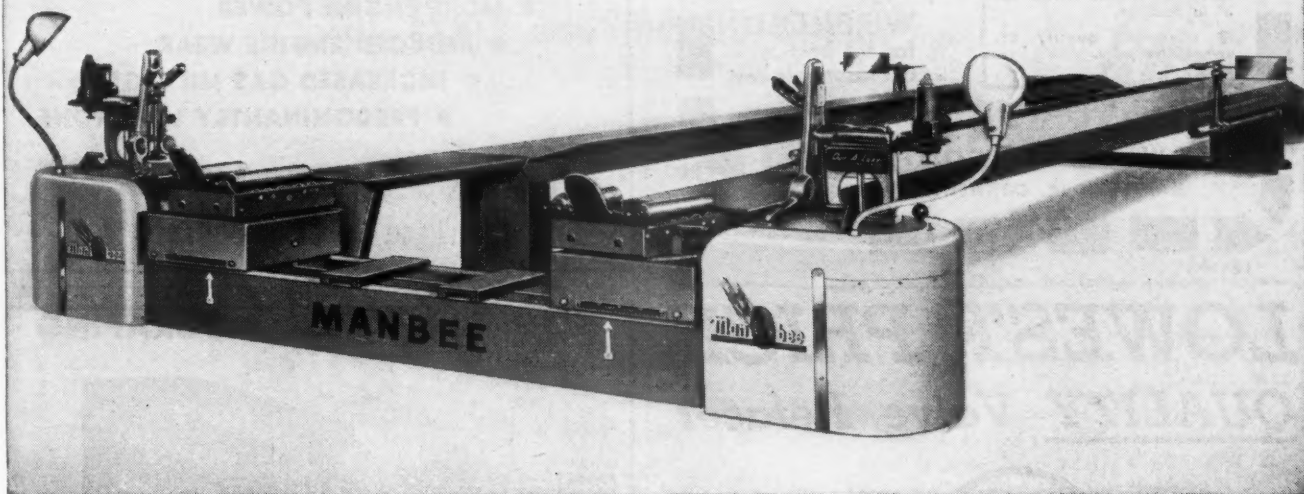
Business  Position



# Revolve the Wheels—



Show the customer  
how his car runs  
on the road—*right*  
in your own shop!



The Dyn-A-Lyzer is power operated. The flick of a switch enables you to *measure alignment with the wheels in the true driving position, power driven under load.* No rolling—no shaking—no guesswork.

Using the simple spirit level gauges with greatly magnified scales you get *direct readings corrected for wheel runout plus exact measurement of wheel runout in degrees or inches.* Nothing is left to chance.

In just one operation with the scientific Tractoscopes you (1) *center steering position with precision,* (2) *set toe to hairline accuracy,* and (3) *check tracking.*

With the flick of a switch you can “road test” the car right on the Dyn-A-Lyzer.

With this 4-wheel alignment machine, *you don't even need to square the car on the rack. You have no intricate mechanism that requires constant checking and adjusting.* Operation is so simple and easy there is no reason for slighting a single check.

“Fastest, most accurate alignment machine”, say users—  
“Twenty minutes average for complete check and correction with no comebacks.”

## A terrific Money Maker!

YES SIR! The Dyn-A-Lyzer *does MORE* than any other alignment machine—*does it FASTER—does it more ACCURATELY* and *MAKES YOU MORE MONEY.*

Let us show you *HOW.* Just mail the coupon.

### MANBEE EQUIPMENT DIVISION

185-A5 North Wabash Ave., Chicago 1, Ill.

Send complete information about the Dyn-A-Lyzer®

☐ with drive-on rack, ☐ for pit installation,  
☐ change-over for our present rack.

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

**MAXIMUM EASE OF HANDLING**



with  
**WIREMOLD  
DEFROSTER  
HOSE**

**THE BEST...  
AT NO EXTRA COST**

- Fits every make and model of car.
- Specified as original equipment on most makes of cars.
- Makes 90° - 180° bends with ease.
- Resists cold - heat - oil - water.
- Saves 50% storage space, 6' lengths retract to 3' in package.
- Wiremold quality at competitive price.

No matter how awkward the job, Wiremold will bend to fit. Handles easily too. Wiremold is light in weight, clean to the touch and easy to cut to length. Furnished in lengths and in diameters to fit every make and model of car or truck.

*Specify*  
**WIREMOLD**  
for the best  
at reasonable cost

MAKERS OF WIREMOLD ELECTRICAL SYSTEMS

**THE WIREMOLD COMPANY**  
HARTFORD 10, CONNECTICUT

14WMB1

# **LOWEST PRICE QUALITY Valve Refacer**



*If it's made by Lee  
it's a "Knock-Out"*



**MODEL K403**

SEE YOUR  
AUTHORIZED  
K. O. LEE  
DISTRIBUTOR  
OR WRITE  
FOR  
COMPLETE  
LITERATURE

**K. O. LEE COMPANY, ABERDEEN, SOUTH DAKOTA**  
VALVE SEAT GRINDER SETS • STUD WRENCHES  
VALVE SEAT INSERTS • RESEATER SETS • ELECTRIC DRILLS • SANDERS  
ROD ALIGNERS • POLISHERS • HAND GRINDER SETS • REAMER DRIVES

**QUICK VOLUME TURNS**

With **SPORTSMAN**



**YOU CAN FILL OVER 87% OF NORMAL MUFFLER  
DEMANDS WITH A MINIMUM STOCK  
OF THE MUFFLER DESIGNED TO GIVE**

- **FASTER PICK-UP**
- **LESS BACK PRESSURE**
- **MORE ENGINE POWER**
- **REDUCED ENGINE WEAR**
- **INCREASED GAS MILEAGE**
- **PREDOMINANTLY LOW TONE**

*Write for details today!*

**Arnold Haviland Company, Defiance 11, O.**

**NO MORE CARBON SCRAPING**



\*DUNK  
AND  
DRYER  
BASKET  
INCLUDED

*Nothing  
Decarbonizes  
and Cleans  
CARBURETORS,  
FUEL PUMPS,  
PARTS  
Like..*

U. S. PAT. #2318942\*  
**GUNK DUNK BENCH Carburetor and  
Parts Cleaning Kit**  
New 6 1/2 gal., size deep "Vapor-  
catcher" design pail.

**New-Improved-  
More Potent\***

**GUNK HYDRO-SEAL**

**A WORD OF  
CAUTION**  
If it doesn't bear  
the Genuine GUNK  
trademark, it may  
be a partly diluted  
imitation—and will  
not give you the  
Safety and Advan-  
tages of Genuine  
GUNK and should  
be flatly refused.

1. Faster . . . Terrific penetration . . . new im-  
proved odor.
2. Quickly digests and removes carbon gum, paint,  
lead, makes possible accurate visual inspection  
and fitting of delicate metering mechanisms,  
jets, orifices and diesel nozzles . . . without  
etching.
3. Lasts more than one year . . . due to water  
blanket.
4. Works hot or cold . . . Rinses wet or dry.
5. Patented Double Barrel Performance Guaranteed.

**SOLD BY BETTER JOBBERS EVERYWHERE**  
Write for Name of Nearest Stocking Jobber  
Flatly Refuse Substitute Imitations

**IMMEDIATE DELIVERY**  
1 GALLON OR A  
TANK CAR

**CURRAN CORP.**  
Mfg. Chemists  
LAWRENCE MASS

MAGIC NAME TO  
A MILLION OWNERS—

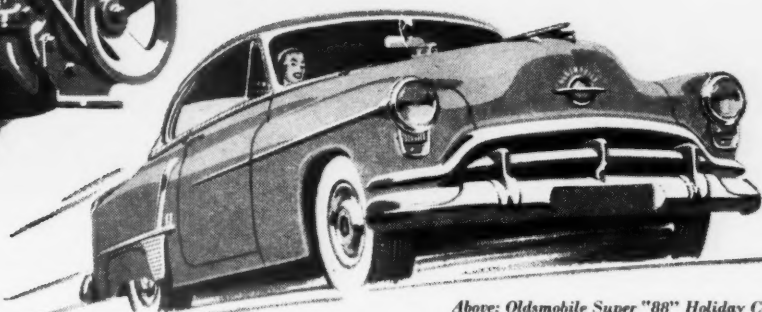
**"ROCKET"!**

And a Magic Selling Feature  
for Every Oldsmobile Dealer!

**SUPER**



*Oldsmobile is rocketing high in the public eye! And the big reason for this popularity is the famous "Rocket" Engine. Yes, more than a million "Rocket" Oldsmobiles are now on the road . . . far more than any other true high-compression engine. This is powerful proof of the leadership Oldsmobile has taken in engines—powerful proof of the "Rocket's" outstanding value. Dealers everywhere know what the "Rocket's" name and the "Rocket's" fame mean to them. They know that the "Rocket" is one of the finest selling features in automotive history. They know that it's smart to "Ride the Rocket" . . . smart to be with Olds!*



*Above: Oldsmobile Super "88" Holiday Coupé*

**OLDSMOBILE**

DIVISION OF GENERAL MOTORS CORPORATION • LANSING, MICH.



## Why Clean Metal Parts



Use

**METAL/**  
*clene*



**NO BRUSHING**  
**NO SCRAPING**  
**NO HEATING**

Metalclene is made under an exclusive Bendix formula. There are many copies, but there is no substitute. When you order, be sure to specify and get the original Bendix\* Metalclene.

\*REG. U.S. PAT. OFF.

*Just Dip 'em in Dirty - Pull 'em out Clean*

**BENDIX PRODUCTS DIVISION of**  
SOUTH BEND 20, INDIANA



Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

## STAINLESS STEEL BANDS

**RESIST  
CORROSION**



**"Aero-Seal" HOSE CLAMPS**

Aero-Seals stay bright, lock tight, grip right. Vibration won't shake 'em, or rugged treatment break 'em loose. Curved saddle prevents distortion or biting at clamping point. Grip never slacks, worm-drive screw never back-tracks, yet Aero-Seal won't bind — is easily removed. Screwdriver or thumbgrip types. Aero-Seal gives you more to sell — more profit from each sale. Contact your jobber, or write us direct.



The Largest Selling Quality Hose Clamp in the World

**BREEZE CORPORATIONS, INC.**

41 S. Sixth St., Newark, N. J.

Use of stainless steel subject to government regulations.





LOOKING FOR  
**BIG VOLUME SALES**  
in **RESALE TOOLS?**

Ask your jobber  
about the latest  
**METCOLD**  
HANDY SELF-DISPLAY  
**TOOL KITS**

**METAL ENGINEERING  
COMPANY**  
134 N. La Salle St.  
CHICAGO 2, ILL.

## CHOLDUN "AUTO-MAGIC" CARWASHER

No Tracks to Lay,  
No Arch to Sway,  
No rack at All—  
To Pull or Fall.  
Won't Jump the Track  
Or Break your Back.  
No Tank to Fill,  
No Soap to Spill,  
No Valves to Stick—  
Now—Take your Pick!

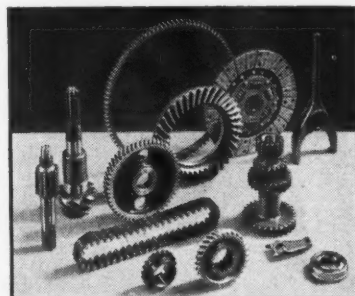


Write *Choldun*

**MANUFACTURING CORPORATION**  
NEW HAVEN, CONN.



**PERFECTION  
PARTS**  
are  
Certified to excel



**PERFECTION GEAR CO.**  
HARVEY, ILLINOIS

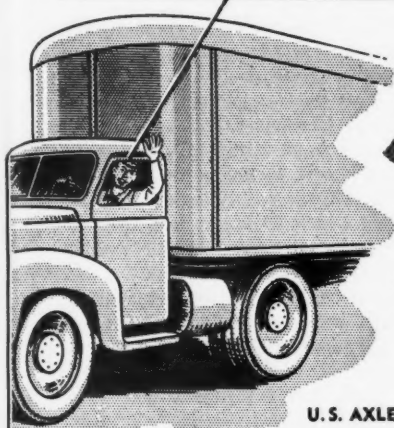
## MOTOR AGE

*The Quality Magazine  
of the Automotive  
After-Market*

### CLASSIFIED ADVERTISEMENT

For Sale: Heavy Duty Brake Shoe & Clutch Plate & Parts—Washer—Weight 550 Lbs. List Price \$563.55 NEW. Never used—we will sell for \$349.95. This Washer is built to last a lifetime. Urzi's Auto Supply, 98 E. San Salvador St., San Jose 12, Calif.

## NO CHLOROPHYLL IN U.S. AXLES



... but they  
sure are SWEET  
to the truckers!

### U.S. AXLE SHAFTS

last twice as long—  
because they are tough. Better road  
performance with fewer failures. They're  
tough because only the best alloy steels  
are used, skillfully heat-treated to pro-  
duce a quality shaft that will take those  
heavy loads and rough roads—Best  
answer to any shaft breakage problem is  
buy U.S. AXLE SHAFTS.

The **US** AXLE COMPANY, INC.  
POTTSTOWN, PENNA.



## WHEEL WEIGHTS



*"The Quality Line"*

A TYPE and SIZE for EVERY APPLICATION

SEE YOUR JOBBER OR WRITE FOR CATALOG

**TURNER Manufacturing Co.**  
KOKOMO, INDIANA, U.S.A.



ACTUALLY COST LESS!



Why take chances with a makeshift, "we hope it works" assembly when you can get a tested, approved "NATIONAL" System. You have a choice of 6 "NATIONAL" Systems—all engineered and guaranteed, in writing, to do the job. Delivered complete, with motor and blower units. Both overhead and under-floor systems for present buildings or new construction. Overhead Systems are priced from \$206.25 depending on number of inlets. Don't gamble. It takes only a 3¢ stamp to find out about all of the "NATIONAL" Systems—and you'll be surprised at how little they cost. There is a qualified "NATIONAL" man near you. Write today for literature.

*The* **NATIONAL SYSTEM**  
of GARAGE VENTILATION, INC.

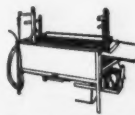
World's Largest Manufacturer of Exclusive Garage Ventilating Equipment

Dept. E3

330 N. Church St., Decatur, Ill.



**PLO-TEST MACHINE**  
diagnoses radiator  
ailments in advance



**TEST and REPAIR BENCH**  
with Electric Elevator  
... Rugged labor-saver



**HOT CLEANING TANK**  
for hot chemical  
cleaning



**LEAK EXPOSER**  
"Locates the  
Hard to Find Leaks"

## INLAND offers Everything for your RADIATOR DEPARTMENT

ALL TOOLS, SUPPLIES, CORES and EQUIPMENT  
for MODERN RADIATOR SERVICE



**DRAIN COCK FLANGE**



**No. 2085 Gloves**  
All purpose  
universal size



**TANK PATCHES**  
for cracks  
around inlet



**TEST PLUGS**  
Sets or single,  
3/4" ID to 2 1/2" ID

Starting a New Radiator Department?  
Training school for radiator repairmen plus complete operating  
instructions and assistance available upon request.

Write for FREE CATALOGS  
State Catalog Wanted—Supplies... Equipment... Cores

**INLAND MANUFACTURING CO.**

Dept. MA-10 1108 Jackson St. Omaha, Nebraska



# Index to Advertisers

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AC Spark Plug Div.....	20-21
A P Parts Corp.....	84-85-126-127
Accurate Parts Mfg. Co.....	82
Air Express Div.....	65
Ajax Auto Parts Co.....	114
Allen Electric & Equipment Co.....	157
All Power Mfg. Co.....	178
Aluminum Co. of Amer.....	89
American Bosch Corp.....	128
American Chain & Cable Co. (Weed) .....	24-25
American Hammered Div. Sealed Power Corp.....	109
Aro Equipment Co.....	31
Auto Specialties Mfg. Co.....	123
Barrett Equipment Co.....	118
Bay Mfg. Co.....	168
Bean Div., John.....	87
Bear Manufacturing Co.....	81
Bendix Products Div.....	174
Black & Decker Mfg. Co.....	67
Bonney Forge & Tool Works	120
Breeze Corp., Inc.....	174
Bridgeport Chain & Mfg. Co.....	103
Bronze Corporation, Inc.....	174
Burd Piston Ring Co.....	66
Campbell Chain Co.....	124-125
Champ-Items, Inc.....	120
Champion Spark Plug Co.....	14-15
Chevrolet Motor Div.....	159
Choldun Mfg. Corp.....	174
Chrysler Corp.....	120
Chrysler Corp. (Parts Div.)	100-101
Classified Advertisement .....	174
Clayton Mfg. Co.....	70
Cleveland Chain & Mfg. Co.....	103
Clevite Service, Inc.....	91
Commercial Credit Corp.....	111
Country Gentleman .....	167
Curran Corp.....	172
Curtis Pneumatic Machy. Div.	69
DeKoven Mfg. Co.....	119
Delco Products Div., G.M. Corp.....	13
Doan Mfg. Corp.....	138
Dole Valve Mfg. Co.....	148
Echlin Mfg. Co.....	154
Edelmann & Co., E.....	95
Eis Automotive Corp.....	80
Electric Auto-Lite Co., The	8-9-96-97
Electric Storage Battery Co.....	27
Farm Journal .....	4
Federal-Mogul Service .....	6-83
Federated Metals Div.....	86
Felt Products Mfg. Co.....	115
Ford Motor Co.....	139
Fram Corp.....	155
Gatke Corp.....	166
Grizzly Mfg. Co.....	129
Guide Lamp Div.....	135
Gumout Div. Penna. Refining Co.....	122

Gyro-Skid Control Co.....	150
Harley-Davidson Motor Co.....	154
Hasting Mfg. Co.....	2nd Cover
Haviland Co., Arnold.....	172
Hein-Werner Corp.....	99
Heller Bros. Co.....	108
Herbrand Tools .....	158
Hershey Metal Products, Inc.....	156
Hudson Motor Car Co.....	170
Hyatt Bearings Div.....	64
Independent Pneumatic Tool Co.....	26
Inland Mfg. Co.....	175
Inland Mfg. Div.....	162
Johns-Manville Corp.....	132-133
Johnson Bronze Co.....	94
Johnson Products, Inc.....	134
Kelsey-Hayes Wheel Co.....	131
Lasco Brake Products Corp.....	28
Lee Co., K. O.....	172
Lincoln Electric Co.....	68
Lion Oil Company.....	137
Lisle Corp.....	140
Lynch Corp. (Par Compressor Div.) .....	88
McQuay-Norris Mfg. Co.....	144-145
Manbee Equip Div.....	171
Martin-Senour Co.....	143
Metal Engineering Co.....	174
Mid Continent Petroleum Corp.....	168
Minnesota Mining & Mfg. Co.....	169
Moog Industries Inc.....	5
Moraine Products Div.....	121
Motorola Inc.....	71
National Air Sander, Inc.....	142
National Automotive Parts Assn.....	105
National Motor Bearing Co., Inc.....	141
National System of Garage Ventilation .....	175

Niehoff & Co., C. E.....	102
Oldsmobile Div.....	173
Owatonna Tool Co.....	104
Packard Electric Div.....	19
Pedrick Piston Rings.....	116-117
Pennsylvania Refining Co.....	122
Pennzoil Co.....	180
Perfect Circle Corp.....	61
Perfect Equipment Corp.....	90
Perfection Gear Co.....	174
Permatex Co., Inc.....	1
Postma Mfg. Co.....	178
Proto Tools .....	2
Pure Oil Co.....	147
Purulator Products, Inc.....	7
Radiator Specialty Co.....	110
Ramsey Corporation....	3rd Cover
Raybestos Div.....	10
Rochester Products Div.....	151
Round Chain & Mfg. Co.....	103
Round Los Angeles Chain Corp.....	103
Round Seattle Chain Corp....	103
Round Woodhouse Chain & Mfg. Co.....	103
Saginaw Steering Gear Div....	177
Schrader's Son, A.....	164
Sealed Power Corp.....	32-109
Shure Mfg. Corp.....	146
Skil Corp.....	112-113
Snap-on Tools Corp.....	63
Socony-Vacuum Oil Co., Inc....	18
Southern Chain & Mfg. Co....	103
Southern Friction Materials Co.....	90
Standard Motor Products, Inc.	30
Standard-Thomson Corp.....	161
Studebaker Corp.....	59
Sun Electric Corp.....	11
Sun Oil Company.....	12
Sunnen Products Co.....	152-153
Thermoid Company....	Back Cover
Timken Roller Bearing Co., The .....	29
Trico Products Corp.....	149
Turner Mfg. Co.....	175
Tuthill Spring Co.....	92
U. S. Axle Co., Inc.....	175
United Motors Service .....	93-163
Van Norman Co.....	136
Wagner Electric Corp.....	22-23
Walker Mfg. Co.....	72-73-74-75-76-77-78-79
Wico Electric Co.....	178
Wilkening Mfg. Co.....	116-117
Willard Storage Battery Co....	16-17
Wilson, K. R.....	160
Wiremold Co.....	172
Wolf's Head Oil Refining Co....	165
World Bestos Corp.....	106-107



Proved and approved  
for over 13 years

# SAGINAW *Hydraulic* POWER STEERING

\*Now available on 1952 model  
Oldsmobiles, Buicks and Cadillacs

Since 1939, when it was introduced, Saginaw hydraulic power steering has proved its worth over and over again on thousands of commercial vehicles.

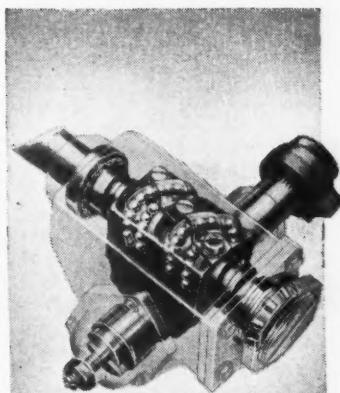
*Now Saginaw hydraulic power steering is available on passenger cars! And already it has won wide acceptance, for "there is no steering like power steering . . . and no power steering like Saginaw hydraulic power steering."*

This new application of the Saginaw hydraulic power steering principle is amazingly simple in design . . . has fewer moving parts, fewer parts in all. It retains the natural feel of ordinary steering at moderate speeds, but makes a spectacular reduction in steering effort at low speeds or for parking.

IF IT'S EASY TO STEER . . . IT'S A SAGINAW GEAR

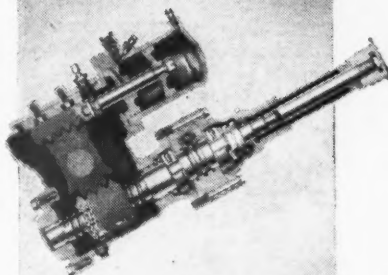
**Saginaw**  
STEERING GEAR DIVISION

General Motors Corporation, Saginaw, Michigan



## RECIRCULATING BALL PRINCIPLE

Saginaw's famous recirculating ball principle provides friction-free operation that is unique in the industry. It is a principle proved in over a million automotive steering gears.



## HYDRAULIC POWER STEERING

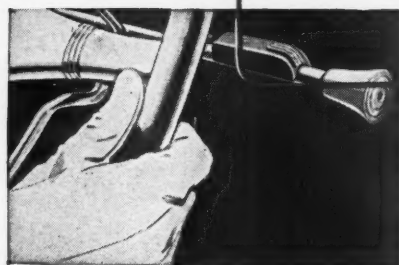
A hydraulic booster multiplies driver steering effort, makes it easy to swing the wheel of the biggest car traveling at any speed—or even when standing still.

\*Optional equipment at extra cost

**SSG**  
PRODUCTS

STEERING GEAR ASSEMBLIES •  
STEERING LINKAGE ASSEMBLIES  
• PROPELLER SHAFTS • DIESEL  
ENGINE AND AIRCRAFT PARTS

# Backsliders... Beware!



Every  
driver  
is a

## ready prospect for the WICO Autostop!

It happens on hills. Even on *little* hills. It happens to *you*!

Whether you are on the receiving end, or the backslider, the results are the same. Riders in both cars are shaken up . . . sometimes, bumpers are locked . . . other times, damage is considerable.

There's no backsliding in a car equipped with a Wico Autostop. When you stop on a hill—or on the level—the Wico Autostop makes the car stay put. It just can't roll backward. Or creep forward.

Suppose *you* drive with a Wico Autostop. You brake to a stop as usual, and touch the magic switch on the gearshift or selector lever. The car stays put! When you're ready to go, step on the gas and the brakes release automatically.

*You don't have to keep your foot on the brake. And there's no need for riding clutch or accelerator.*

Practically every car owner is a prospect for a Wico Autostop. Here is a brand new opportunity for you to sell a profitable item—not a gadget, but a real necessity. And one demonstration can make the sale. Write us *now* about the MONEY-SAVING DEMONSTRATOR OFFER that makes it easy to show your customers *all* the Autostop advantages. To show 'em is to sell 'em!

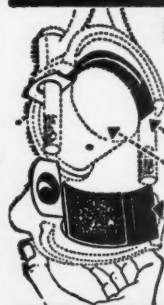
Each Wico Autostop kit contains complete illustrated instructions. Average installation time: 1½ hours.



Manufacturers of Magnetos and the "Puff-a-lite" Automobile Lighter

**WICO ELECTRIC CO., West Springfield, Mass.**

## THE "JOURNALIZER" ENGINEERED FOR PRECISION CRANKSHAFT TRUING



### EASIER LESS COSTLY FASTER

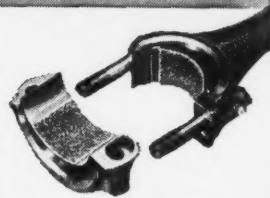
You can true journals to a smooth round finish quickly, accurately and economically thanks to the dependable JOURNALIZER. Precision JOURNALIZER give lasting bearing performance to your customer's car.

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Remove the oil pan and spark plugs . . . install JOURNALIZER in place of engine bearing . . . Presto! the starter motor does the work. JOURNALIZER is supplied with coarse and fine replaceable inserts for rough cutting and polishing.



JOURNALIZER will true No. 1 journal on ALL engines. "Universal Kit," five sizes service all cars and most trucks, (except Ford V8) . . . \$35.00  
Individual Kit . . . 7.00 each  
(Specify engine and model when ordering.)



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## all-Power De Luxe Piston Groove Cleaner

### A NEW and Revolutionary Principle In Piston Groove Cleaners

**OPERATION** — The locking principle is quickly executed and positive. No back slipping. The large ring at "C" for inserting the finger in revolving the tool. Pressure at "A" locks the tool. Pressure at "B" releases it. Ring Groove Set Screw, letter "D" prevents cutter blade from dropping into large oil holes or slots in the ring groove. No other groove cleaner compares in its mechanical advantages.

**CUTTER BLADE**—The quick-setting, self-aligning, large, five-prong cutter blade feature permitting quick operation in adjusting to the ring-groove widths.

**SERVICES RING GROOVES, WIDTHS OF 3/32" & 1/4", incl., & Pistons 2½" to 5".**



Stocked by all leading jobbers

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400 ROOSEVELT AVENUE, MONTEBELLO, CALIF.

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this advanced design helical ring  
makes **10<sub>up</sub>** the...

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**SPRING ACTION**  
CONSERVES ENGINE POWER

MINIMUM ACTION

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*Right Combination*

for all engine conditions

Regardless of engine condition . . . with 10-Up you can compensate for wear without resort to extreme pressures. The secret is in Ramsey exclusive steel Spiro-Seal Ring with its special spring action!

This special spring action reduces the need for pressure under all circumstances. It comes into play only as needed. Thus in perfectly straight cylinders, the pressures are comparable to original equipment rings.

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in ENGINE RE-POWERING



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A subsidiary of  
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FOR DOUBLE LIFE

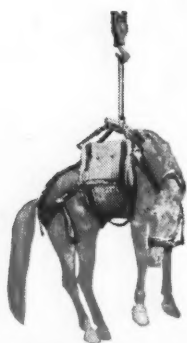
Now, 2 outstanding Ring Combinations and

**RAMCROME 10<sub>up</sub>**

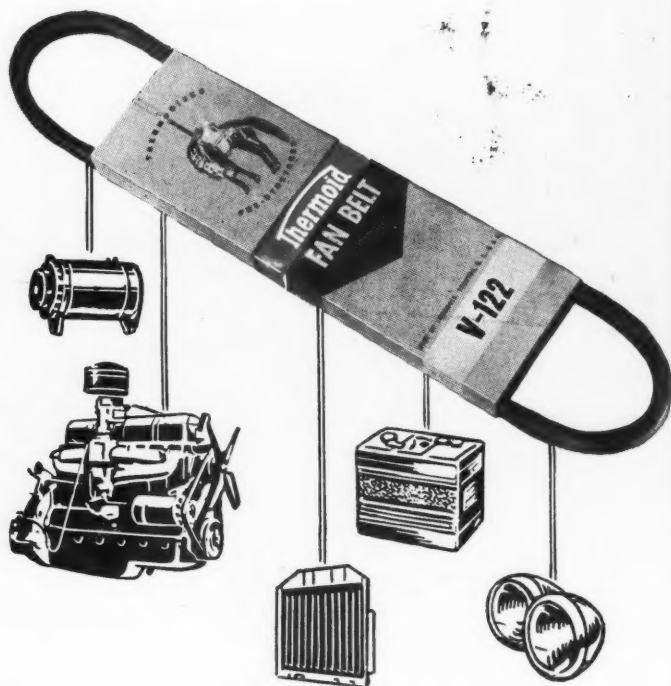
*Chrome Plated*  
**Piston Rings**  
FOR TRIPLE LIFE



# everything hangs on the fan belt!



Thermoid pre-stretched fan belts  
are "A horse of a different color"



Yes, *everything* hangs on the fan belt: cooling, lighting, and ignition systems—and your profits!

When a broken fan belt leaves one of your customers stranded on the road, he doesn't blame the fan belt—he blames *you*! So, make it a point to remind your customers that automotive engineers say a fan belt should be replaced every two years—or every 20,000 miles.

Make your replacements with Thermoid Fan Belts. Better fit means easier installation. What's more, they are pre-stretched to assure *lasting* fit. Thermoid Fan Belts don't stretch in service. Because they never slip, they last longer—give more dependable service.

Make it a practice to show your customers the advantages of replacing a worn or stretched fan belt *before* it fails. And make replacements with Thermoid Fan Belts.

# Thermoid

Thermoid Company • Trenton, New Jersey

Brake Linings • Fan Belts • Radiator Hose • Hydraulic Brake Parts and Fluid • Car Mats • Clutch Facings • Thermoid Precision Process Equipment.